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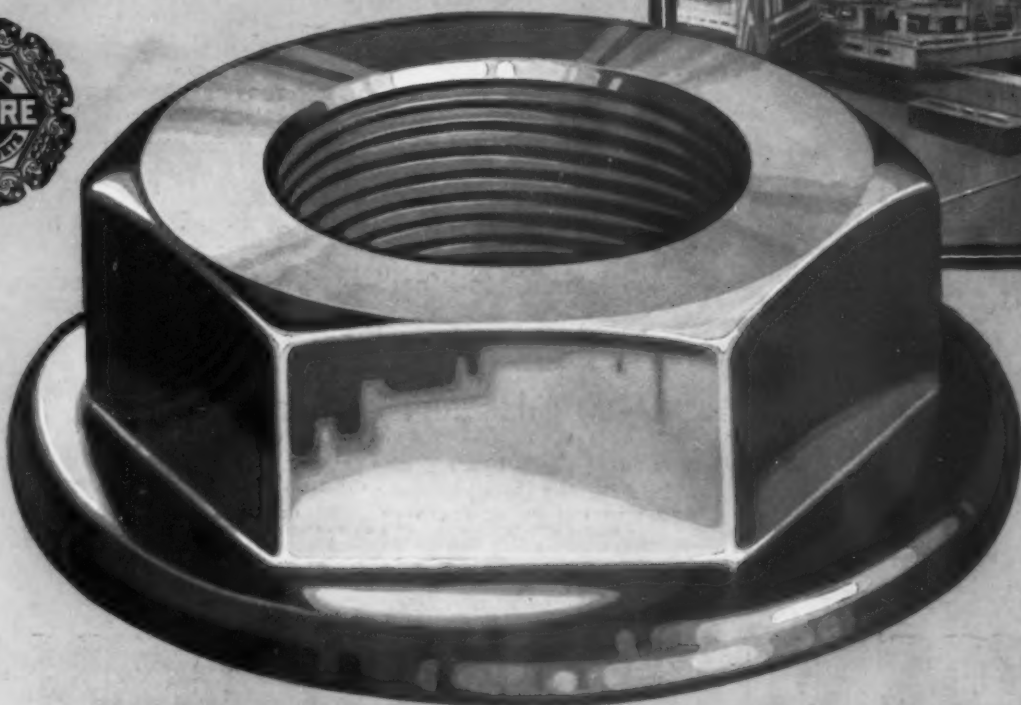
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RYERSON STEEL-SERVICE

THE IRON AGE

New York, June 10, 1926

ESTABLISHED 1855

VOL. 117, No. 23



Counting Hinges by Weight in the Plant of the Ternstedt Mfg. Co.

Scales Speed Up Mass Production

Raw Material Weighed on Monorail
—Finished Parts Counted and
Sorted on Scales—Electric Conveyor
Scale Weighs Material in Transit

BY F. L. PRENTISS*

SCALES are pushing their way forward to a more important place in the metal-working industry. Their field of usefulness, for a long time limited to weighing, has been extended until their use in counting small parts is not uncommon, and various other applications are being found for scales of special types. Economies have also been effected by providing scales in conveyor lines, which register the weight of material as it is moving through a plant.

Scales, by keeping a check on production, preventing losses and counting pieces for various purposes, including securing a record of the output of piece-rate workers, are taking their place alongside machine tools as labor-saving and cost-cutting equipment in the production lines of manufacturing plants.

The growing use of scales in plants has doubtless been brought about by the great improvement in industrial weighing equipment, particularly the development of automatic dial indicating scales to take the place of the loose weight beam-type scales, which are comparatively slow in operation and subject to errors, because of their dependence on the human element.

Weigh Material on Monorail Scale

A scale manufacturer that has devoted much attention to the development of industrial scales is the Toledo Scale Co., Toledo, Ohio. The principle followed by this company in building small scales used by retail merchants and later applied to industrial scales is automatically balancing weight against weight and indicating the result on a dial.

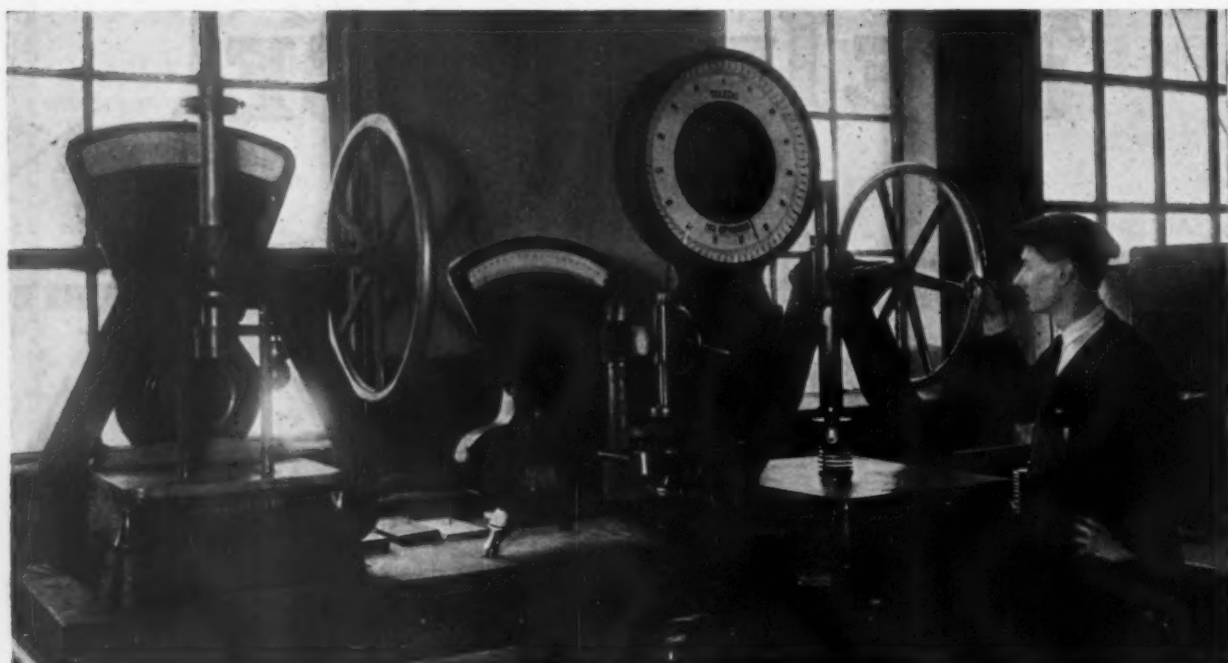
A plant in which the wide application of scales for various purposes is well illustrated is that of the Ternstedt Mfg. Co., Detroit, a unit of the General Motors

Corporation which manufactures automobile body hardware. In this company's plant several types of Toledo scales are used. The heavier materials, such as strips, sheets and steel bars, are carried from the unloading dock to the raw stock room on an electric hoist, operating on a monorail. In the monorail is a live scale section, and the weight is recorded on the scale head. The scale head is inside of the building and the monorail outside, but in view of the weigher through the glass-inclosed side of the building.

How Counting Scale Is Used

An automatic dial-type counting scale is used in issuing stock to the individual machines for checking production, computing the earnings for piece workers, for packing in bags and for invoicing. This is a standard Toledo platform scale that is also equipped for counting. The scale has an extended arm permanently attached to the tare-beam lever bracket from which is suspended a ratio pan. A piece is placed in this pan and is counterbalanced by like parts on the scale platform in ratios of 50 to 1 or 100 to 1. To count the number of parts, an empty container is placed on the scale and the tare poise is moved until the indicator returns to zero. The parts are placed in the container and the net weight is noted. Parts are then counted into the ratio pan until the indicator again returns to zero. A totalizing chart on the face of the dial has columns of figures for use in operating the scale. For example, if there are 14 parts in the ratio pan on a 50-to-1 ratio scale, the chart shows in the column opposite 14 the number 714, which is the number of parts on the platform and in the pan when they are counterbalanced. To count out a certain number of parts, say 600, reference to the chart shows the figure 12 opposite 612 in the second column. Twelve

*Resident editor THE IRON AGE, Cleveland.



Scales for Testing the Resistance of Springs Used in the Plant of the Cadillac Motor Car Co. The scale at the right tests the compression of clutch springs, the one in the middle tests carburetor springs, and the one at the left, brake springs

parts are placed in the ratio pan and the parts are placed in the container until the indicator registers zero, when the container holds exactly 600 parts.

In addition to counting, this scale performs the usual function of weighing; the net weight of the load on the platform is indicated on the scale dial after the parts are removed from the ratio pan.

Using a Scale to Check Counts of Parts

An application of a Toledo automatic weighing scale for checking the count of parts is found in the plant of the S. M. Jones Co., Toledo, manufacturer of sucker rods. The slender rods, about 20 ft. long and

weighing 30 to 35 lb. each, are difficult to handle. These, when finished, are tied up into small bundles of six rods each, and 15 of these bundles are bunched together into a large bundle, weighing approximately 3000 lb. Chains attached to the end of a handling yoke are placed around the bundle, which is then picked up by an electric hoist that carries it to the warehouse for shipment. Formerly a checker counted the rods as they were piled into the freight cars, and errors in the factory count were frequently found. Now the bundles are weighed as they pass over a live-track section in the monorail, and if the weight is 3000 lb., or within a very small tolerance, the count is



While This Picture Was Taken in the Plant of the Firestone Tire & Rubber Co., Akron, Ohio, It Suggests a Similar Application in the Metal-Working Industry of a Live Section of a Roller Conveyor Supported on the Platform of an Automatic Scale

known to be correct. This method of checking is found to be more accurate than the old method, as well as much speedier.

Sorting Parts with a Scale

One of the illustrations shows a Toledo scale that was especially designed for the accurate and rapid sorting by weight of automobile connecting rods and pistons. It has a double-pendulum counterbalancing and indicating mechanism, and greater leverage on the weighing lever, which is placed in the position of the tare lever on the standard scale. This permits wide graduations on the chart, which is divided into 64 spaces, $\frac{1}{4}$ in. wide and each representing $\frac{1}{4}$ oz. A part of average weight, which is selected as a master part, is placed in the weighing pan, and the poises are adjusted to bring the indicator to 32. The poises are then locked to prevent accidental moving.

The connecting rods, as they are weighed, are sorted into groups according to the numbers indicated on the dial, the parts in each group weighing the same—within $\frac{1}{4}$ oz. With this sorting, piston rods for a motor can be taken from one group, assuring that these parts in a motor are of the same weight, within $\frac{1}{4}$ oz.



Special Type of Scale Used by the Cadillac Motor Car Co. for Sorting Connecting Rods According to Weight

A special attachment is also provided for sorting the connecting rods into groups, according to the location of their centers of gravity. With its use, the rods may be sorted both according to weight and for having their centers of gravity at the same point.

Use Scale to Test Springs for Resistance

Another of the uses of automatic scales is the testing of automobile springs for resistance. The spring is placed on the platform of the scale and is pressed down, either by means of a vertical bar operated by a hand wheel, or by a foot lever. The scale shows the number of pounds of pressure required to effect a maximum of spring compression.

An electric conveyor scale for weighing in transit and recording the quantity of material counted over a conveyor is being placed on the market by the Stearns Conveyor Co., Cleveland. This scale is mounted over the conveyor frame at a convenient point and supports a freely suspended portion of the conveyor track, the loaded and return sections of the



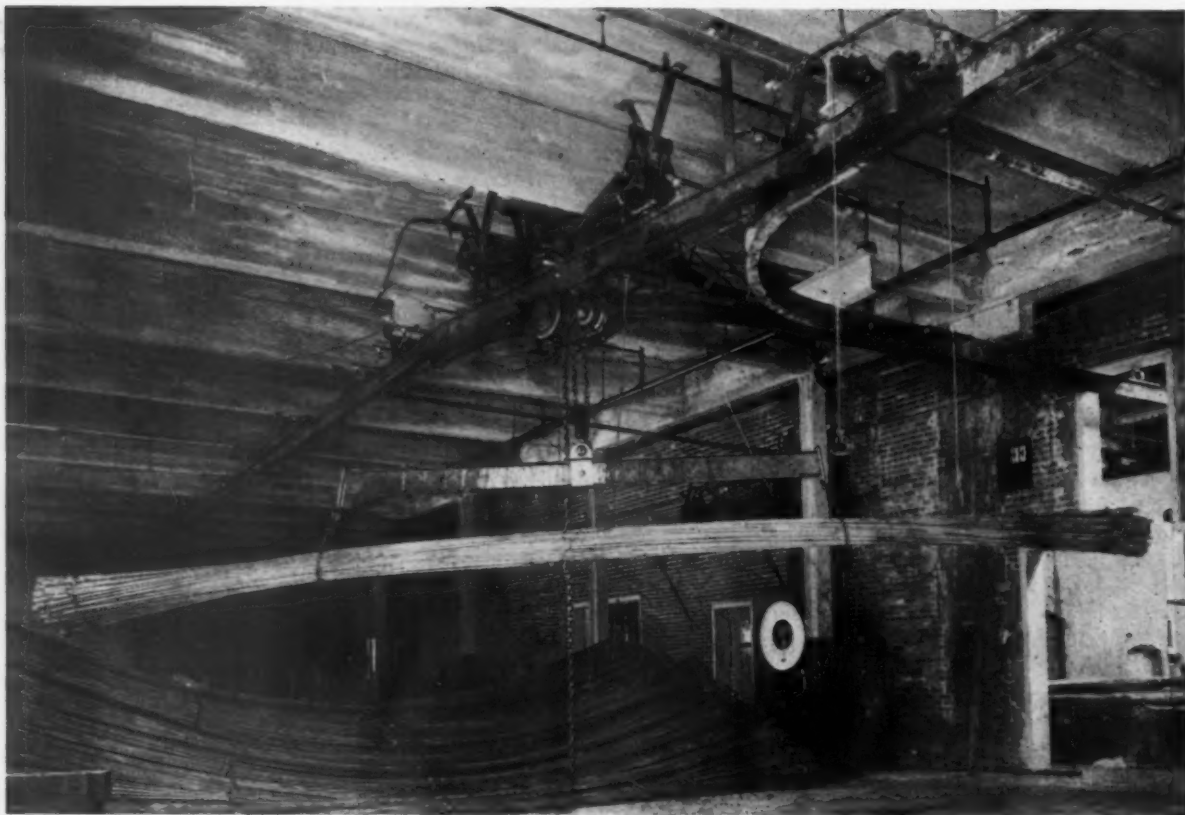
Scales for Testing Valve Springs in the Plant of the Packard Motor Car Co. The compression is accomplished by foot power

conveyor being independently suspended from opposite sides of the steelyard arms of the scale. The weight of the conveyor belt itself is thus completely neutralized and the tare is automatically deducted, so that only the actual weight of the material conveyed is registered. It is pointed out that this automatic deduction of the tare is of much importance, because the accuracy of the recording operation is assured whether the flow of material on the conveyor is regular, irregular or intermittent.

Electric Recording Apparatus for Conveyor Scale

The electric recording apparatus operates as follows: A small electric generator is driven from the conveyor foot shaft by means of a chain and sprocket wheel, or some other form of positive drive. The current is produced at a voltage that is directly proportional to the revolutions of the generator and therefore to the speed of the conveyor belt. In other words, the voltage changes as the belt speed varies.

The current is modified by the action of a plunger in a mercury dashpot. The plunger is actuated directly by the movement of the scale beams, and a variation in the level of the plunger and, therefore, of the mercury in the dashpot, causes resistance to be cut in or out of the circuit, varying the current in exact proportion to the load carried. The product of the voltage and current is therefore proportional to the speed of the belt and consequently to the weight conveyed. This product is registered on an integrating watt-meter calibrated in tons, pounds or other units of measure, instead of being calibrated in kilowatt-hours as with the ordinary recording watt-meter. The weight-recording instruments can be placed at any de-

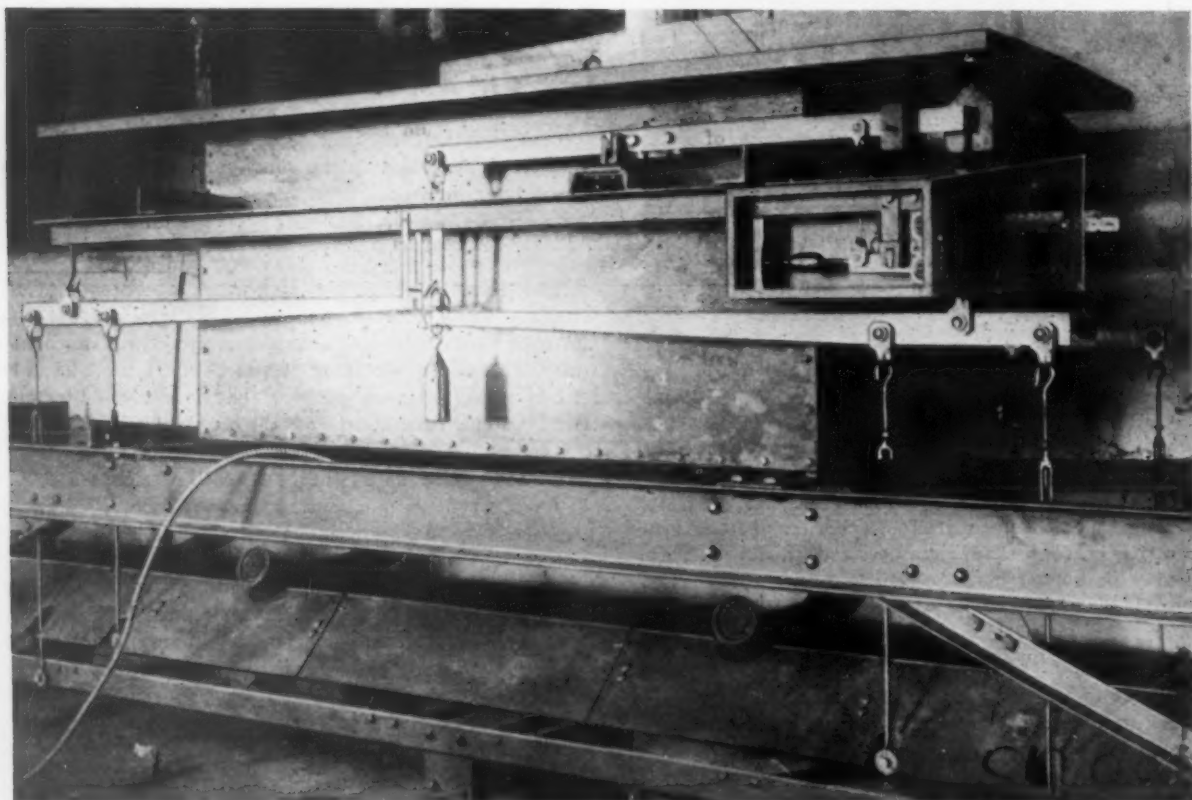


Scales Operating Through a Live Section of a Monorail Track Are Used for Checking the Number of Sucker Rods in a Bundle at the Plant of the S. M. Jones Co., Toledo, Ohio

sired point in the plant regardless of the location of the scale.

It is stated that the scale can be used with any type of horizontal or inclined conveyor in which a section of live track can be suspended. When the scale is adjusted by the setting of weights for belt tension and tare deduction, no further adjustment is required unless some essential change is made in the equipment

or in the tension conditions. The construction of the scale may be varied to meet special conditions. For example, when a pivoted bucket conveyor is handling coal and ashes in a power plant, the system will require two scales, because the loaded and return buckets do not pass each other in the conveyor track and therefore cannot be balanced against each other on a single scale.



An Electrically Operated Conveyor Scale for Weighing Material in Transit Has Been Put on the Market by the Stearns Conveyor Co., Cleveland

Steel Merchandising Is Antiquated

Competition Between Industries, Rather Than Within Industry, Calls for United Efforts to Hold Established Trade and to Develop New Markets

BY CHARLES F. ABBOTT*

FIFTY years ago, or, indeed, up until the beginning of the World War, merchandising consisted primarily in competition among members of the same industry. Attention was concentrated largely upon production. Little or no time was consumed in considering whether the market for the product as a whole was expanding or contracting. Ignorance of the causes of business fluctuations, of the facts of supply and demand, of efficient business methods, resulted in intense competition within the industry itself.

Today the competitors that manufacturers have most to fear are not those in their own industry. There has arisen a new competition for all lines of business. The real competition is not now between concerns in the same industry, but between different industries meeting similar needs, not for the individual concern's share of the money spent in the industry, but for a proper share of the national income for the industry as a whole. It has come to be accepted that if there is enough for the industry as a whole there will be enough to go around among its members.

To meet the new competition there have been evolved new principles of merchandising. Based upon the indisputable fact that the public demands those commodities which it knows and has confidence in, one of the most important of these new principles is that any industry which would keep competitive commodities from encroaching upon its territory, or which would extend the field of its product, must build up in the general public a consciousness of the merits of its product that will create confidence in the service it can render.

Steel Industry Relies on Antiquated Merchandising Methods

The steel industry, as you know, may be divided roughly into two main divisions, the hot steel industry which produces the steel from the ore, and the cold steel industry which fabricates the steel for the various uses to which it is put by the ultimate purchaser. Reliance, to a greater or less extent, by both of these divisions of the steel industry upon the merchandising principles of a vanished era, while manufacturers of competing products have been alert to take advantage of the merchandising principles of today, is responsible for the unfortunate position in which many branches of the steel industry now find themselves.

With no intention of offering destructive criticisms, with the idea only of painting the background for constructive suggestions, I may say that the hot steel industry is the only large industry existing today in which there is not universal recognition of the fact that the producer should maintain an active interest in his product until it reaches the consumer.

The hot steel industry has never taken any interest in its product after it has passed into the hands of the cold steel industry. The hot steel industry has always thought, and still thinks, in terms of tonnage output. Concentration upon the greatest number of tons per man per day has brought about neglect of the market and of all that concerns it.

Constructive Advertising Never Applied by Hot Steel Industry

Constructive advertising to build up a public consciousness of steel has never been applied. In altogether too many instances the sales methods of the hot steel industry are antiquated, obsolete. Its varying prices, established to meet local or special conditions,

are a throwback to the old customs of trading, long ago consigned to the scrap heap. Its failure to classify its trade, or to recognize those whose responsibility is certified by the capital invested, as compared to those with little or no financial standing, presents a condition that is far from logical.

The hot steel industry has never assumed the initiative in any effort to extend the use of steel. The development of new uses has been left to the consumer. The railroads themselves are responsible for the use of steel in the construction of freight and passenger cars. The automobile manufacturers assumed the initiative in preparing specifications which they submitted to the mills.

How has this concentration upon production, to the exclusion of practically everything else, affected the hot steel industry?

An analysis of 27 of the more important iron and steel mills shows earnings of \$3.80 in 1924 and \$4.51 in 1925 for each \$100 of aggregate capitalization. An analysis of 12 other important industries shows average earnings of \$12 for each \$100 of aggregate capitalization. The survey of the iron and steel mills further shows that, in spite of the growth in the nation's capacity for consumption, the ability of the steel mills to produce steel exceeds the ability of the nation to absorb it.

Earnings that are so low in proportion to the aggregate capitalization are in great part attributable to this excess plant capacity. Excess plant capacity is frequently referred to as a condition which retards progress in the hot steel industry. Declining markets naturally lead to a condition of excess capacity. If the same importance had been attached to markets as has been devoted to efficient production, there would be no excess capacity in the hot steel industry.

Too much of what has been said about the merchandising methods of the hot steel industry applies also to the cold steel industry—those of us who fabricate the steel; and our division has suffered greatly as a consequence.

Progress of Cold Steel Industry in Merchandising

But while we of the cold steel industry may be censured for not having taken more immediate advantage of the principles of modern merchandising, we are still, in this respect, far in advance of the hot steel industry.

You, the fabricators of steel boilers, are awake to the seriousness of the situation. The manufacturers of sheet steel, whose steel roofing a few years ago was being displaced by a competing product at the rate of thousands of tons a year, are checking the invasion of their territory and extending their field. The fabricators of structural steel are laying a firm foundation for the recovery of the market encroached upon during the old days of disorganization.

This come-back on the part of two branches of the cold steel industry has been brought about by means of industrial group cooperation which, functioning through trade associations, has made possible the application of those merchandising principles that have proved their worth so conclusively during the last decade.

The American Institute of Steel Construction, the association of the structural steel fabricators, and the Sheet Steel Trade Extension Committee, the association of the sheet steel manufacturers, are not associations based upon the "pay a few dollars a year and forget it" theory, or upon mere attendance at an annual meeting. They are trade associations the members of which have shown a willingness to contribute substantial

*Executive director American Institute of Steel Construction, New York. Abstract of address before American Boiler Manufacturers Association at Hot Springs, Va., June 1.

financial support, and the enthusiasm, hard work and ideas which enable them to function along three main lines of endeavor:

1. Standardization to eliminate waste in production and to promote the most efficient use of the product.
2. Research to develop new uses for the product and new markets.
3. Creation of a public consciousness of the advantage of the product.

National Advertising Essential to Educational Program

We recognize the value of national advertising as a part of our educational program. It forms one of the principal planks in our platform, to be called into play at the earliest possible date. National advertising must be relied upon to a great extent to arouse a consciousness of the part played by steel in modern civilization, and a like consciousness of its inherent qualities which make it the ideal material for so many purposes.

The cold steel industry looks forward eagerly to the time when the hot steel industry will cooperate with it in the execution of a constructive educational campaign to arouse such a consciousness of steel and so protect the steel industry as a whole from the encroachment of products aggressively marketed by competing industries. It is a logical step fraught with possibilities the realization of which would lead directly to

substantial increases in the tonnage output of both divisions of the industry. On the other hand, a failure to perceive in time the advantage of such a step is fraught with possibilities of grave injury to both interests.

Prestige of Steel Industry at Stake

While it is true that the mills which produce the steel may never come in contact with the purchaser, yet if the purchaser, in sufficient numbers, turns to competitive products—as in too many cases he now does—many of the mill furnaces will grow cold, their dividends will shrink, and the industry as a whole will inevitably sink from the position of industrial leadership it holds today.

A blow at the fabricator of steel boilers, or a blow at the fabricator of structural steel, is a blow at steel itself, and at the industry as a whole, from the mill right down the line. The mill, the fabricator of steel sheets, the fabricator of steel boilers, the fabricator of steel tanks, the fabricator of structural steel—each must view with grave concern the substitution of some competitive article for steel, even though that substitution does not take place in his own branch of the industry. Each such substitution is a blow at the prestige of steel.

Steel in Difficult Foundation Work

Part Played in Caissons for Substructure of New York Evening Post Building in New York

BY FRANK W. SKINNER*

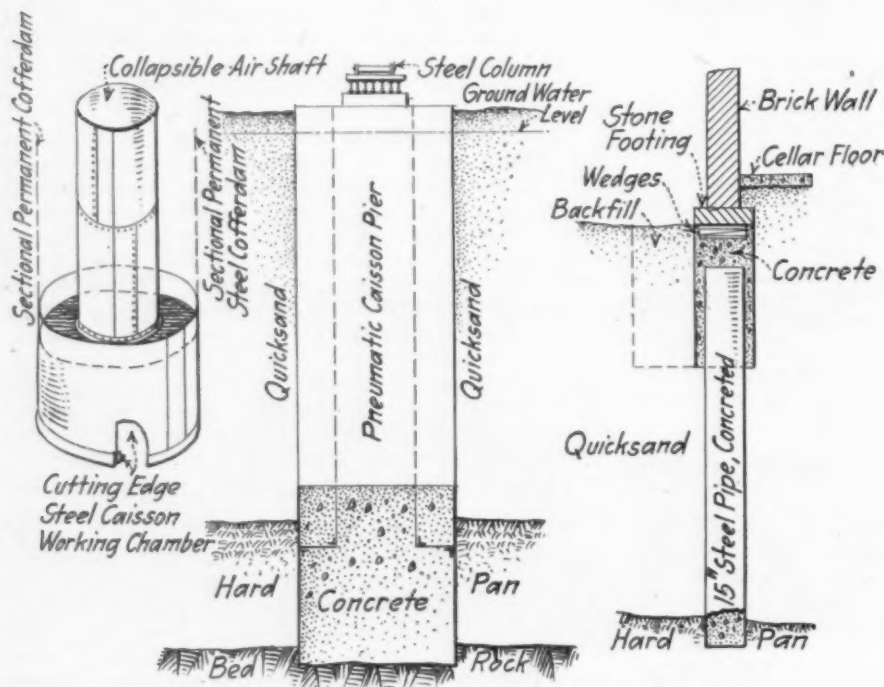
WE are accustomed to hear of 1000, 5000 or even 10,000 tons of steel in the skeleton of a large or lofty building. During construction the imposing framework is the most conspicuous feature in sight or in hearing, but few realize the great amount of steel and the vital importance that it has in the substructure, which, when finished, is forever buried out of sight. The more difficult and dangerous the foundation conditions, the more likely is it that steel is there an essential element. Sometimes it has given way to other material, but the more important and exacting the work, and in New York especially where requirements

are commonly exceedingly severe, the more likely is it that steel must be used for one or several principal purposes.

In most of the tall buildings in lower New York, the foundations are carried to rock through 40 to 60 ft. of quicksand. By means of the pneumatic caisson process, they are sunk on top of what are essentially large diving bells. In these of course men work in compressed air excavating the material. As the men undermine the diving bells, the massive foundation piers are built on top of them and all gradually sink to a solid bearing on the bedrock.

When this system was first introduced, 30 or 40 years ago, the caissons were built like ships' hulls, of

*Consulting engineer, 20 Vesey Street, New York.



Details of Steel Pneumatic Caisson and Cofferdam, Showing How the Units to Support the Building Weight Are Made Up and How They Are Worked Down Through Overlying Quicksand and Hard Pan to Bed Rock. At right is shown the method of underpinning an adjoining, existant wall, giving it a permanent support

Sinking 86 Steel Pneumatic Caissons With Sectional Circular Steel and Rectangular Wooden Permanent Cofferdams. Note six air locks in service and many steel and wooden cofferdams assembled on other caissons. Concrete mixers on the right. Cofferdam panels stored on platforms over side-walks



heavy plates and angles riveted and calked, and they were employed for many of the earlier steel frame buildings.

As years passed the fashion changed and the caissons, sometimes 20 or 30 ft. long, were built of concrete, but still reinforced with hundreds of tons of steel bars. In many cases these were equipped with permanent or temporary steel shafts. Recently in one of the most difficult and important foundation jobs for the 16-story new *Evening Post* Building on West Street, New York, the contractors went back to the early method and used more than 600 tons of steel caissons and cofferdams for the 86 deep piers provided in the building design.

The *Evening Post* building is located in the old bed of the North River on made ground, overlying quicksand and obstructed by the deeply buried remains of old heavy foundations, abandoned piers, sunken wrecks, heavy timbers, large stones and other obstacles. Through this the piers, up to 16 ft. in width, had to be carried 50 ft. or more, deep into the stratum of refractory hardpan, nearly as hard as the rock itself. Great weights were necessary to sink the caissons, and tremendous stresses were developed that required the strongest construction for their safe resistance.

The caissons alone covered a large percentage of the area of the 133 x 176 ft. plot, so that there was not enough room left for all the necessary derricks, machinery and working space, to say nothing of the large amount that would be required for building timber or concrete caissons. The result was the contractors purchased 86 heavy square and cylindrical bottomless boxes, as wide as 16 ft. and about 8 ft. high. These were provided with heavily reinforced lower edges, which were riveted up complete and calked airtight at a remote fabricating plant. Including a large number of cylindrical sections for upper parts, the unwieldy boxes, weighing up to 10 tons each, were delivered on trucks to the site, where they were unloaded from the street and set accurately in position by a series of derricks equipped with Lidgerwood hoisting engines. Men entering them began the sinking process. The excavation was necessarily expedited at times by Chicago pneumatic tools supplied from a compressor on the site.

As the caissons descended the space above their low and heavy roofs was filled with concrete and, after they reached their final bearing in the hardpan, the working chambers themselves and the communicating shafts were also concreted and the foundations were ready to receive the steel superstructure.

The Underpinning & Foundation Co. built the substructure, but they also had to put new foundations

under the walls of an adjacent building. For this purpose they used a number of very heavy steel pipes cut in short sections and driven down under the existing walls by means of hydraulic jacks between the top of the pipe and the foot of the wall. Successive sections of the pipe were added on the top as the lower part was forced down. As the pipe descended the interior was excavated by means of a miniature Hayward orange-peel bucket operated by hand, bringing up earth and gravel and stones, no matter how great the depth. These proved so efficient that they brought up stones as large as could pass through the pipes. Eventually the pipes were filled with concrete and wedged firmly against the bottom of the old wall.

Horace Trumbauer and C. S. Landers were architect and consulting engineer, respectively, and the Thompson-Starrett Co. the general contractor for this building.

To Install 120,000 Lb. Per Hr. Steam Generators

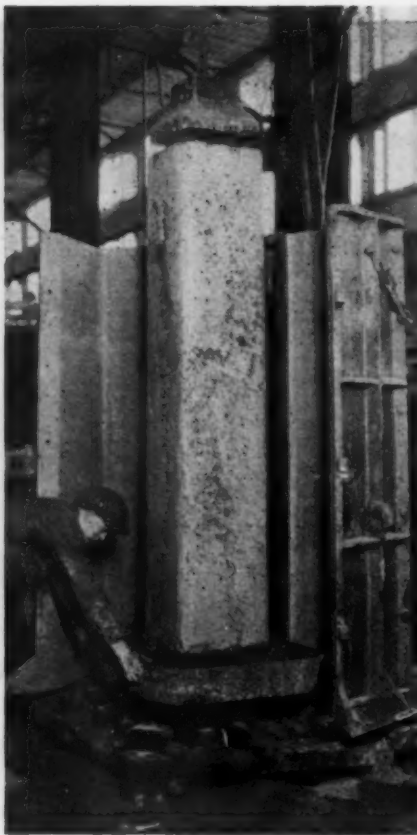
The National Enameling & Stamping Co., Inc., Granite City, Ill., has awarded a contract to the Combustion Engineering Corporation, New York City, for two 120,000 lb. per hr. steam generators operating at a steam pressure of 160-lb. per sq. in. and a superheat of 120 deg. Fahr. The contract specifies a guarantee of an over-all efficiency of 87 per cent. It is anticipated that the installation will result in a material decrease in the cost of steam and will reduce the labor cost in the boiler house to less than one-third of the present amount. The boilers will be fired with pulverized fuel. The contract covers the furnishing and erecting of the generators, superheaters, coal pulverizers and the fans. The company has retained Baumes-McDevitt, St. Louis, as construction engineers on the job.

Iron and Steel Works Employment in April

Iron and steel works showed a slight gain in number of men employed in 213 establishments in April, compared with March, according to figures of the United States Bureau of Labor Statistics. The number on payroll in April was 290,394, against 288,671 in March. There was a slight decrease in amount of payroll, from \$9,019,495 in March to \$8,934,208 in April. The average pay envelope was about 1.5 per cent lighter in April than in March.



At the Left—The Core Bar Is Designed With a Sand Flange to Give the Mold a Sand Bottom



In the Center—The Core Box Is Hinged on a Ramming Base Made to Receive the Sand Flange of the Core Bar



At the Right—The Core Box Is Closed and Locked, and the Sand Is Rammed by Means of Air Tools

First Ingot Mold

Careful Centering of Core
in Flask and Core
Wall Thickness

BY ROGER

A FOUNDRY recently completed at South Chicago, Ill., by the Valley Mold & Iron Corporation, Sharpsville, Pa., is the first plant in the West producing ingot molds for distribution to the general trade. Designed for an ultimate capacity of 25,000 net tons of finished ingot molds per month, the foundry has an initial capacity of 15,000 net tons. It is located on property adjacent to the two Federal blast furnaces of the By-Products Coke Corporation, from which hot metal is transported by rail in 45-ton ladles. The distance from the stacks to the ladle-tilting crane runway is about 1000 ft. The productive capacity of the two Federal furnaces is about 32,000 gross tons of pig iron per month.

The foundry building is a steel-frame structure with roof and siding of corrugated galvanized sheets. A monitor extends the full length of a main bay, which measures 60 ft. x 816 ft. Continuous sash incloses the sides of the monitor at the ends of the building, but over the middle section, below which is located the pouring platform, louvers have been installed. The main bay is served by four 20 and 25-ton overhead electric traveling cranes. A lean-to along the south side of the main bay and near its west end houses a sand track. A 10-ton overhead electric crane unloads sand from standard-gage railroad cars and stores it in the lean-to, which is parallel to the ramming platform. A stool foundry, 70 ft. x 140 ft., has been built adjacent to the south wall of the main

bay. This room is served by an overhead electric traveling crane.

A wing, 70 ft. x 96 ft., has been added to the northwest corner of the main building, and this will be used as a machine shop and equipment storage room. It is served by a 25-ton overhead electric crane. This department also houses two motor-driven air compressors, furnished by the Bury Compressor Co., Erie, Pa. The office and sanitary equipment buildings are built of brick and are detached from the foundry structure. The foundry building is not equipped for heating during the winter months, since it is anticipated that heat radiating from the hot metal and drying ovens will be ample to keep the room at a temperature satisfactory for working conditions.

Sand Is Handled Mechanically

New sand is stored by means of a bucket suspended from an overhead crane. It is taken from storage, when required, by the crane bucket and unloaded into a hopper located above a screen and sand mixer, supplied by the Stephens-Adamson Mfg. Co., Aurora, Ill. Used sand, which is stored near the mixer, is also loaded into the hopper by the crane bucket. After passing through the mixer the sand drops into a concrete pit, where it is picked up by the crane bucket and unloaded into a muller, furnished by the National Engineering Co., Chicago. It is then passed by chute to another concrete pit and is removed by the crane bucket for distribution to the storage hoppers at the ramming platform. The platform is in the main bay

*Western editor THE IRON AGE, Chicago.



Foundry in West

Bar in Core Box, Pattern
Mold Insure Uniform
in Ingot Mold

A. FISKE*

and is elevated above the foundry floor to approximately the height of an ingot mold flask.

Core Bar Is Accurately Centered

In making the ingot mold core a cast iron bar is fitted into a ramming base. The base makes a metal-to-metal contact at the lower end of the core bar. This arrangement puts the core bar on a true center with and perpendicular to the base. The core box is cast iron, made in two halves which are hinged along one edge, with the lower hinge pin fitted into a hole drilled into the ramming base. Rollers or casters, mounted on the base, facilitate the closing of the core box by manual labor. The core box is closed and locked and the sand is rammed by means of air tools operated by workmen on the platform. The core box is then removed, and the core is taken from its place at the platform and spotted near the drying ovens, where it is finished with blacking.

The four drying ovens have a capacity of 32 cores. They are of brick construction and are built above the foundry floor level. The roofs are made of sheet metal and are of the telescoping type. Each core is dried for about 4 hr. at a temperature of 600 deg. Fahr. by means of oil burners of the low-pressure, air-atomizing type. Air for the burners is supplied by a General Electric Co. motor-driven, single-stage centrifugal blower. Fuel oil is forced to the burners by two belt-driven, single-acting, triple-plunger pumps.

Each flask, which is made of cast iron and is split longitudinally, carries a stripping plate, which sup-

At the Left—The Pattern Is Made of Cast Iron. The flask carries a stripping plate to support the sand and to give accurate setting on the ramming base

In the Center—The Core Is Spotted in a Casting Base, and the Mold Is Then Lowered Over It, Being Accurately Centered by Means of Pins

At the Right—Ingot Molds Are Poured From a 12-Ton Bottom-Pour Ladle. The gate is along the side of the flask, so that metal enters the mold at the bottom

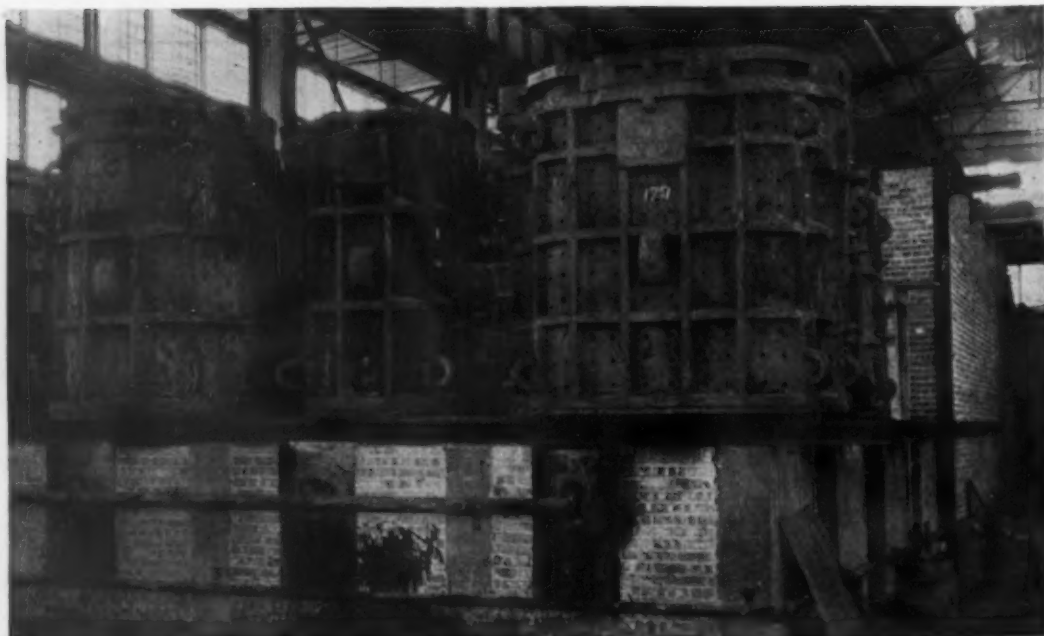
ports the sand and gives a metal-to-metal joint when the mold is placed on the casting base. It has been found that this practice prevents the forming of a fin between the mold and the base.

Dowels Insure Proper Centering of Flask and Pattern

After the two halves of the flask are locked together, the flask is placed on a ramming base. Dowels in the base insure the proper centering of the flask with the pattern. After the mold has been rammed and stripped from the pattern, it is blackened and removed to drying burners. There are 20 of these oil burners, each being surrounded by a small combustion chamber constructed of brick. The area of each combustion chamber is such that a mold can be placed on the top of the brick walls. The mold thus becomes a stack or chimney for the small oil-fired furnace. After 2½ to 3 hr. of drying at a temperature of 600 deg. Fahr. the mold is ready to be taken to the pouring platform.

Dried cores and molds are placed on a transfer table operating on a track between the ovens and the pouring platform, which is elevated above the foundry floor to about the height of a mold. Fifteen molds can be placed on each side of the pouring platform. On each side of this platform and a few inches above the floor are two rails so spaced that they will support iron casting plates. The center of each plate is recessed and forms a pocket into which the base of the core fits, with about 1/32 in. clearance at the sides. Thus the core cannot be off center more than that amount,

Molds, After Being Rammed, Are Placed Over Small Oil-Fired Combustion Chambers. The molds are virtually chimneys for the burners during the drying period



and it must stand perpendicular to the casting base, which also supports the mold. Holes drilled in the base are matched by means of guide pins with holes in the bottom flange of the flask, so that as the mold is lowered into position over the core, it must come to rest with its center coinciding with that of the core. By following this method of assembling core and mold, an ingot mold of uniform wall thickness is insured.

A pour box is then placed over the gate, which extends down the side of the flask and is rammed with the mold. Thus it is seen that the metal flows down the gate and enters the mold at the bottom. The foundry ladles are of the bottom-pour type and each has a capacity of 12 tons. The ladles are filled by placing them in pits below the floor level and alongside of the track on which the furnace ladle cars are run into the foundry. The tipping crane, located over the foundry ladle car track, is essentially the trolley of an ordinary overhead electric crane. The metal used in casting ingot molds at this foundry is a low-phosphorus malleable

pig iron. Ingot molds cast in the foundry range in size from 3 tons to 9 tons each.

Each ingot mold is allowed to stand for 3 to 5 hr. before it is stripped from the flask and core bar. It is then placed in the hot pile and remains there for 60 to 80 hr. No effort is made to remove any of the sand until the ingot mold is taken from the hot pile. When the ingot mold is cold it is transported to the cleaning department, where air tools are employed to remove the sand. The ingot mold is then taken to a finishing rack, where it is chipped, ground and inspected.

The men upon whom rests the major part of the responsibility for the operation of the ingot mold foundry are William Roberts, general superintendent of the Sharpville and South Chicago foundries, and E. L. Raysor, superintendent of the new plant at South Chicago. George L. Morrow, district sales manager, handles orders and shipments, and Thomas J. Bernhardt, assistant purchasing agent, local purchases.

TO CURB UNEMPLOYMENT

Propose Plan of Gathering Monthly Statistics to Forestall Periods of Enforced Idleness

A PLAN to forestall periods of extensive unemployment, such as often follow waves of unusual prosperity, is presented in a report of a study by a committee of the American Statistical Association, of which Mary Van Kleeck, director of the Russell Sage Foundation's Department of Industrial Studies, is chairman.

"The purpose of the plan," the report states, "is to lessen unemployment by providing facts needed to understand and control fluctuations in the production of goods and obstructions to their sale."

The report declares that the distress suffered by large groups of workers periodically thrown out of employment in times of business depression can largely be avoided by accurate advance information on the trend of employment.

The plan now presented calls for the collection of employment statistics monthly by State labor bureaus, with the United States Department of Labor the coordinating center. In addition, the plan urges the extension of the regular collection of employment statistics by Federal bureaus having a direct relation to certain industries, such as the Geological Survey for mines and quarries, the Interstate Commerce Commission for railroads, and the Department of Agriculture

for farms, and the reporting of all these data to the Federal Bureau of Labor Statistics for prompt publication of national indices of employment.

Answers to two main questions are sought in the proposed monthly surveys: the total number of employees on each payroll, and the total amount of wages paid in the monthly payroll period. The industries from which it is proposed to collect the data are manufacturing, mining and quarrying, communication, building construction, wholesale trade, retail trade, logging and lumber work, and agriculture.

The business failures and suffering among wage-earners in 1921 resulted in directing attention to the possibility of preventing unemployment by lessening the fluctuations in business known as the business cycle, the committee points out. The chief factor in the control of business has been found in the control of credit by the Federal Reserve System.

More Leather Belting Exported

Exports of leather belting in the ten months ended April 30 are reported by the Department of Commerce at 1,154,589 lb., valued at \$1,727,933. Both figures show an increase of more than 11 per cent over the 1,039,156 lb., valued at \$1,536,139, during the corresponding period of last year. China was the most important market, followed in order by British India, Canada, Cuba and Mexico.

Europe's Machine Tool Buying*

Substantial Movement Expected Within at Least Two Years and American Automatic Ma- chines Will Be in Demand

WITHIN 18 months to two years it is likely that a substantial market for American machine tools will be opened up in Europe. This prediction is based upon the fact that European industrial leaders, particularly those in England, realize that they must revolutionize their production methods by installing machinery of the latest type if they wish to compete with the United States in the world markets.

Two English commissions recently visited this country to study our industries. After an extensive tour they returned home with the recommendation that their fellow countrymen emulate the example set by Americans and attain quantity output and low production costs by replacing hand labor with machinery and by utilizing the type of tools which will yield the greatest possible results in the shortest possible time.

Demand Will Be for Automatic Tools

Consequently the demand will be for automatic machine tools. The English as well as the people of other countries in Europe are too impoverished at present to begin this industrial transition on a large scale. Possibly the effect of the recent general strike will postpone the day when the industrial leaders will have the means to supplant their old equipment and their hand labor with automatic tools. But when the time does come, and it should be within the next two years, American machine tool builders again will have a European market for their automatic tools and special purpose machines.

Those American machine tool manufacturers who have direct representatives in Europe will be in a particularly advantageous position to secure the business when it is placed. They now are building good will and are educating the prospective buyers to the merits of their tools. The American builders who wait until the actual orders are ready to be placed are not likely to share to any marked extent in the business.

It must be remembered that the cry throughout England is "buy English goods," and the only way in which it is possible to sell American tools is to have something to offer which no one else can furnish or to have a product superior to that which the English are making themselves. Here the superiority of American machine tools is an outstanding factor. Europeans readily admit that the tools made in the United States are the best in the world.

European Dealer Supplies Machine Accessories

The large machine tool dealers in England, France and Germany have competent engineering staffs and are equipped to manufacture the tools and fixtures which are accessories to large machine tools. Whereas the American builder makes the machine, the small tools and fixtures which accompany it, and also supplies the engineering skill, the dealer in Europe buys only the machine tool itself from the American builder and operates his own engineering and accessory departments at a profit.

In England the largest and most successful dealer establishments are managed by Americans, who went to that country originally as the representatives of American firms and stayed there to go into business for themselves.

Stocks of War Period Machines Still Remain

While there still are abundant stocks of machine tools remaining from the war period, they have been

reduced greatly. Probably in another two years they will no longer be an important factor. Furthermore, they are rapidly becoming obsolete and will in no way be a competitor of the American automatic machines when European industrialists again can afford to purchase equipment.

German machine tools are being sold at between 10 and 20 per cent below those produced in the United States. The English are asking slightly more than the Germans for their tools, but are slightly below the American price standard. However, now that Germany is on a sound financial basis, manufacturing costs have risen sharply, and builders in that country will not be able to undersell the Americans so readily.

Fear of German Competition General

In copying machines of American make the Germans have been only partly successful. They either leave out some vital part or produce some parts which are distinctly inferior to those on the American tools. It is little wonder, therefore, that they have been unable to secure a good price for these tools and have been forced to sell them in certain instances at as low as one-half of the figure asked for the American original.

Fear of German competition is apparent in many parts of Europe. The Germans are adhering to an aggressive sales policy, are carrying their message to many countries, and are exhibiting their products far and wide. For example, in Egypt the Germans were showing their tools, agricultural implements and other commodities at an Egyptian exposition which had only two American exhibitors. Particularly outstanding has been the success of a firm in Stuttgart, Germany, in marketing an automatic screw machine which has been displacing many old machines in England, France, Italy and Germany.

The Question of Extended Credit

Much has been said about the extension of credit by the Germans to the Soviet government. Some statements declare that 6, 12 and 18 months have been given the Russians in which to pay for their goods. Investigation will reveal that such is not the case. The so-called "trade acceptances" taken by the German manufacturers are discounted by the German banks and then are discounted by Soviet banks in Russia, so that the Russians really are financing their own purchases in Germany.

When Belgium and Germany were passing through the period of financial stabilization, several Belgian and German machine tool dealers took advantage of the opportunity to buy as much machinery as possible at extremely low prices. Consequently, these dealers today have little ready money, but have their warehouses full of valuable machinery and should make handsome profits on their investments.

Automobile makers in Italy, France and England have taken Ford as their model and are endeavoring to readjust their plant operations to permit production on a large scale. Therefore, they will be buying considerable automatic machinery in the next few years.

While the Germans and the English are factors in the European machine tool market, the French are not formidable competitors of American builders. Practically all of the machines made in France are sold in that country.

*An interview with O. B. Iles, president International Machine Tool Co., who has just returned from Europe.

WHEEL-QUARTERING MACHINE

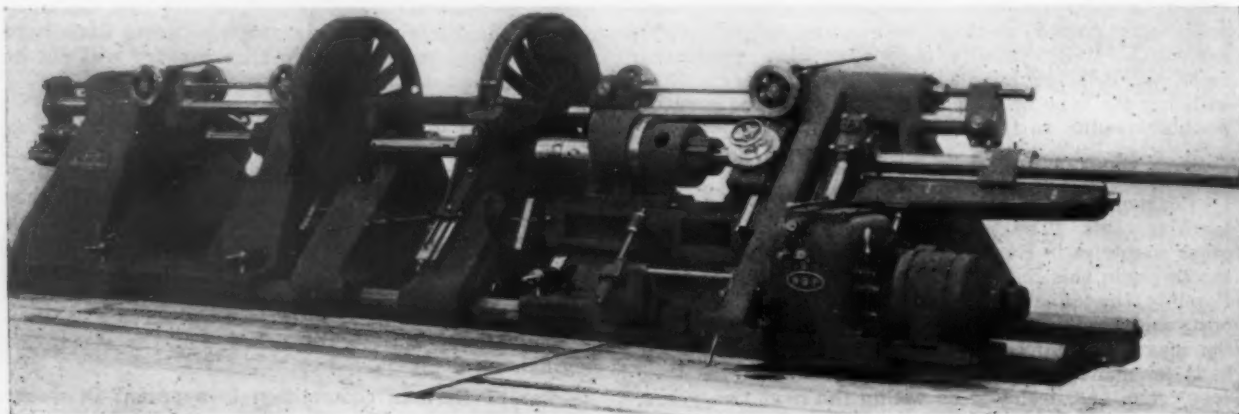
90-In. Unit for Boring Simultaneously Crankpin Holes in Locomotive Driving Wheels

The Niles-Bement-Pond Co., 111 Broadway, New York, is bringing out the 90-in. wheel quartering machine here shown, which is arranged for boring simultaneously crankpin holes in locomotive driving wheels. By the use of a special attachment, crankpins mounted in the wheel sets can also be turned. The design provides for wheel sets having right-hand lead only, which is stressed as permitting the machine to be built with greater rigidity.

The machine is provided with a right- and left-hand headstock. These heads are mounted and slide on large 90-deg. V-ways on the bed, the center-to-center distance of ways being 48 in. The heads are adjustable laterally along bed by power and each is held to it by

The wheel set is supported from each journal by two compensating V-blocks, which are free to slide on a large elevating member, the lower end of which is threaded for the purpose of raising or lowering the V-blocks to take care of the variation in size of journals. The supporting bracket also carries an outboard bearing for the boring bar, scales being provided to facilitate setting the outboard bearing to correspond with the setting of the spindle saddle. The support brackets are adjusted laterally on bed, in or out in relation to each other, by left- and right-hand screws operating through a large handwheel. A wing is provided on each bracket to which the wheels are clamped in position for quartering. To bring the wheels into proper location for quartering, an adjustable link is provided for each head. One end of the link is affixed to a C-clamp applied to tire or rim of the wheel center, the other end being fastened to eye bolt in bed.

Each boring spindle is independently driven by its own motor through a large worm and worm wheel

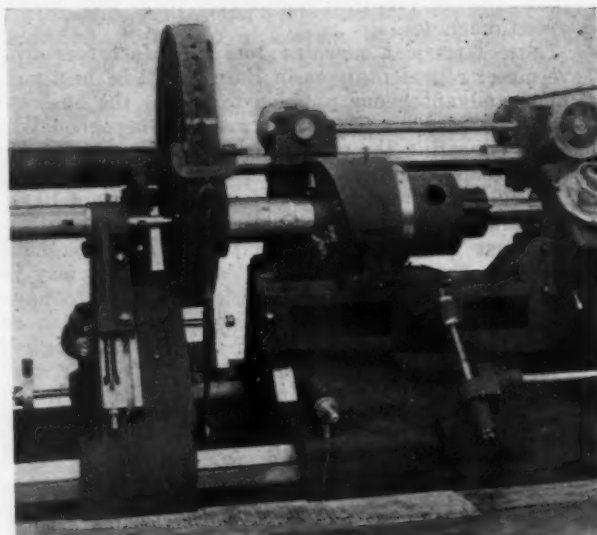


Wheel-Quartering Machine Arranged for Crankpin Turning. View at right is close-up of crankpin turning operation

means of long shoes fitted underneath the ways. They are clamped in position, both front and back, by an eccentric clamping device actuated by a wrench, and can be clamped effectively from either position. The wheel sets are carried on centers mounted in large sliding spindles which are adjusted through a screw operated from convenient hand wheels, one on each side of the head. The spindles are clamped at the front by a lever. The headstocks are designed to carry the quartering saddle within the main casting. The guiding surfaces for the spindle saddles are planed so that the included angle between the two spindles is 90 deg.

A saddle carrying a spindle is mounted in each headstock, and is adjustable toward and from the head spindle centers from 11 in. to 20 in., which is equivalent to 22 in. to 40 in. piston strokes. Adjustment is made by hand, and to facilitate the setting to a predetermined stroke, scales are provided which give the position of the boring bar in relation to the dead centers or axle centers. The front portion of the saddle is gibbed and is held to a square-lock bearing planed on the headstock. The thrust is taken on two guides, one on either side of the spindle.

The boring bar, which is $4\frac{1}{2}$ in. in diameter is provided with hand and power traverse for lateral movement. Each bar is supported on the outer end of the saddle and is kept in alignment by means of an outboard bearing which also carries a nut for the feed screw. Adjustable limit switches fitted to the saddle automatically prevent overtravel of the bar when feeding or traversing in either direction. The feed mechanism for the spindle is contained in the saddle, providing two feeds, $1/32$ in. and $1/16$ in., and is arranged so that it is impossible to operate the fast traverse to the bar while the feed is engaged and vice versa. The feeds and fast traverse can be reversed by a lever located conveniently on top of the speed box.



running in oil. The worm is of steel, hardened and ground in the thread, and the worm wheel is of bronze. A gear box giving two changes of speed is mounted between motor and boring spindle. Gears in the gear box are of steel, heat treated and run in a bath of oil. Speed changes are obtained through a lever located at front of box. Power for traverse of each head is taken from this gear box through a positive clutch operated by a lever on side of the box. All bearings are bronze bushed.

The machine may be driven by either direct or alternating current motors. For d.c. two shunt wound 5-hp. 2 to 1 variable-speed motors, having a speed range of 650 to 1300 r.p.m., are provided. Each motor is equipped with automatic controller, with start, stop and inching push button stations, and separately mounted field rheostat. In conjunction with the two mechanical speeds in gear box, the boring bar speeds

range from 5.7 to 23.8 r.p.m. For a.c. current the machine is equipped with two 5-hp. squirrel-cage induction motors having a speed of 1150 r.p.m. Two spindle speeds, 10 and 21 r.p.m., are obtained through the speed box.

Double crankpin turning attachments of the box-tool type, so that two pins may be turned simultaneously, can be furnished. Each attachment consists of a heavy base fitted to V-ways on the bed and bolted to a planed pad on the headstock. A sliding bracket which carries and guides the revolving crankpin turning head is bolted at one end to the saddle, and at the other end is supported by a bearing on the base. This sliding member is adjustable up and down on the base in unison with the saddle to provide for various crank throws. Scales are furnished to facilitate this setting.

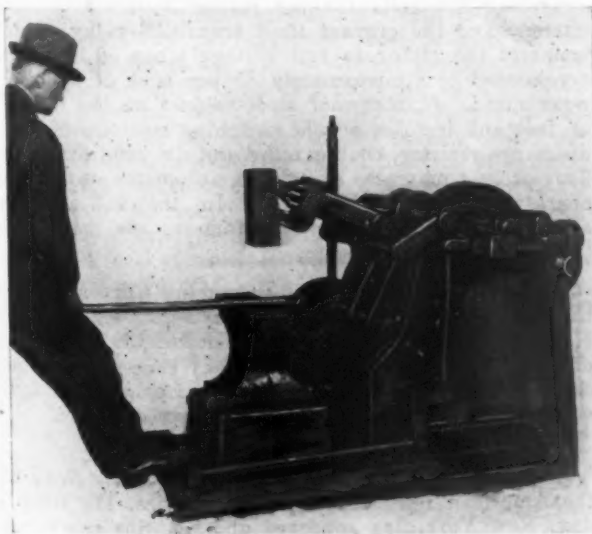
Into the sliding spindle in the headstock is inserted an extended center of large diameter which is guided at its outer end by an outboard bearing. On top of this bearing is an additional handwheel connected with the sliding spindle screw mechanism so that centers may be extended or withdrawn either from the setting-up position at the wheels or from the operating position at the heads.

When setting up for crankpin turning, it is necessary to relocate the boring bar through the sleeve of the outboard bearing on the saddles in relation to its position for quartering. Properly spaced taper pin holes in the bar corresponding with taper holes in the sleeve are furnished for this purpose. Wheels may be quartered without removing the crankpin attachment, the end of the boring bars being arranged to receive an auxiliary bar, the outer end of which is supported by adjustable bearing on wheel supports. The bearing for crankpin turning head also acts as a support of boring bar on the other side, assuring rigidity for the bar and boring tool. Crankpins up to 12 in. in diameter and 24 in. in length may be turned. The swing over the bed is 99% in.

Smithing Hammer Designed as Auxiliary to Hand Forging Operations

The Chambersburg Engineering Co., Chambersburg, Pa., is bringing out the smithing hammer here shown, which is intended as auxiliary equipment in hand forging operations. The machine is characterized as a mechanical "sledge man" and is capable of delivering blows varying in force from a light tap to a heavy blow.

The hammer head is suspended so that its face is always parallel to the anvil and all blows are struck true. A power traverse, operative from the same treadle that controls the blow, permits of working on any part of the face of the anvil. The head weighs 50 lb. and strikes at a maximum rate of 218 blows per min. Two and a half horsepower is required to drive the machine. The power may be taken either from a line shaft or from a motor mounted on the frame.



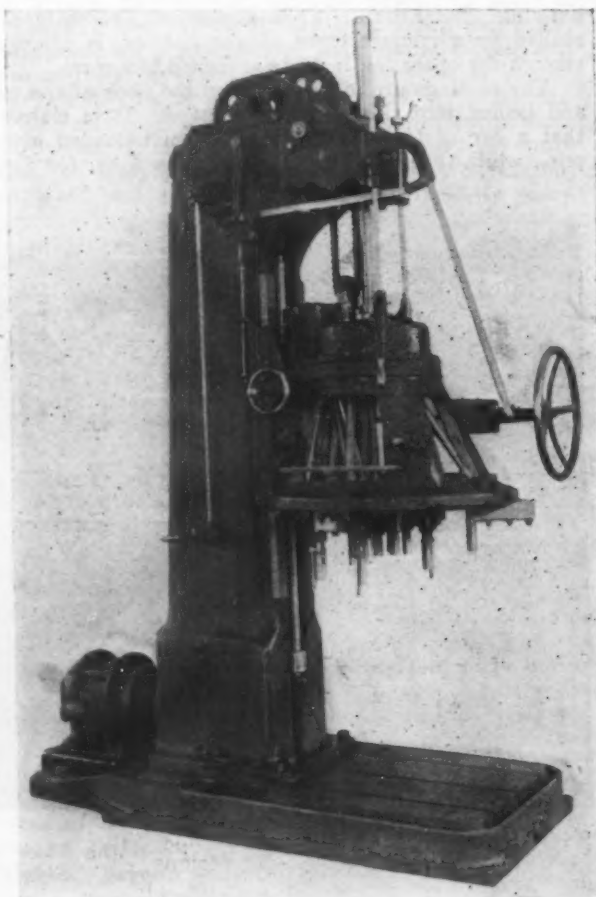
The Head Strikes at Maximum Rate of 218 Blows Per Min.

High-Speed Multiple-Spindle Drill with Center Feed

The Baush Machine Tool Co., Springfield, Mass., is adding to its line the center-feed high-speed multiple-spindle drilling machine here shown, which is designated as the No. 2A.

The machine is furnished with round or rectangular heads, the 16-, 20- and 24-in. round heads being available with 12 or 16 spindles, the 16 by 30-in. and the 20 by 40-in. rectangular heads with 26 or 32 spindles. The capacity of the machine is for eight 1-in. drills or their equivalent in cast iron.

Either belt or motor drive may be furnished. For motor drive, the motor is mounted on the bed and connected directly to the horizontal drive shaft. Power is transmitted from horizontal-drive shaft through



Feeding Pressure Is in the Center of the Head Directly Over the Center of the Drill Layout

bevel gears to vertical shaft to the head, thence through a three-speed gear box in the head to the spindles. The head is equipped with back gears giving a reduction of 3.1 to 1 on round heads and 2.6 to 1 on rectangular heads.

Control of the machine is from the front by means of hand lever and handwheel. The hand lever operates a friction clutch in a yoke, which gives a rapid approach and return to the head. The handwheel permits of making close adjustments of the head by hand. There are three changes of feed through sliding gears conveniently controlled by hand lever on side of the post. A box table or rotating table of a size to suit layout can be furnished. The machine can be arranged for tapping, counterboring or spot-facing.

Features emphasized include rigid construction of the machine, and the center feed. With the latter the feeding pressure is in the center of the head directly over the center of drill layout, which is stressed as eliminating springing of the head away from the guides on the post under heavy duty, and resulting in a saving of tools and jig bushings. Practically all bearings throughout the machine are of ball and roller type.

The column has a hole to permit of conveniently adding or removing small weights for nicely balancing of the head. The rapid approach and return of the head through the friction clutch in the yoke is built as an integral part of the machine. It is claimed that a more efficient drive is obtained by driving from the horizontal drive shaft directly up to the head, instead of driving up to the yoke and thence down.

The floor space occupied by the machine is 4 ft. 10 in. by 7 ft. 6 in. and the extreme height, ram up, is 11 ft. 9 in. The shipping weight is 9000 to 11,000 lb. For motor drive a 15-hp. 1200 r.p.m. motor is employed.

Crane Truck Equipped with Magnet for Unloading Castings

A crane truck equipped with magnet for unloading loose castings from box cars is shown in the accompanying illustration. This equipment, recently installed by a manufacturer of automobiles, is compact enough for operation inside a standard box car.

The castings are picked up from the floor of the car and loaded into skid boxes or bagged. It is claimed that a car of loose castings has been unloaded in 45 min., while the best previous time was 3 hr. for four

at 30 volts, connected by silent chain to a four-cylinder Continental engine governed at 1000 r.p.m. The magnet is the 20-in. circular type manufactured by the Ohio Electric & Controller Co., Cleveland.

Automatic Starter for 2300-Volt Synchronous Motors

A self-contained, oil-immersed automatic starter for 2300-volt synchronous motors has been added recently to the line of the Electric Controller & Mfg. Co., Cleveland.

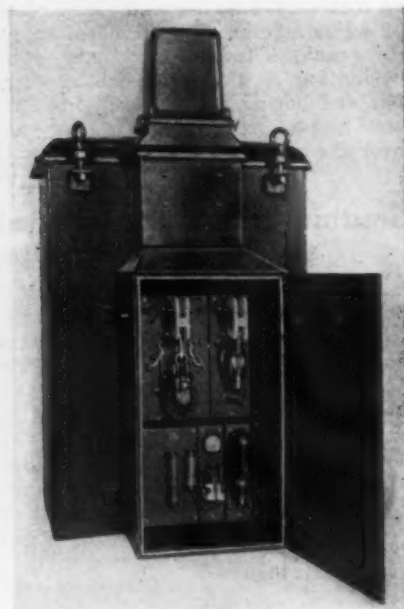
This equipment is intended for across-the-line starting of slow speed motors, and for reduced voltage starting of the higher speed motors. The accompanying illustration shows a reduced voltage starter. The full voltage equipment for starting slow speed motors is of similar appearance except that the height is reduced. In each case the operator simply pushes a button to start the motor and as the motor approaches synchronous speed, the field excitation is automatically applied.

The reduced voltage starter consists of a welded boiler-plate tank which contains an automatic double-throw switching mechanism, a power transformer for



Loose Castings Are Picked Up From the Floor of Box Cars and Loaded into Skid Boxes or Bagged. Significant savings are claimed

Self-Contained Automatic Starter for 2300-Volt Synchronous Motors



men. Bagged castings are handled more rapidly. The cost of operating this crane truck is said to be approximately the same as the wages paid a laborer.

This equipment was built by the Baker-Raulang Co., Cleveland. The crane is known as type S-477 and has a capacity of 1000 lb., at a 40-in. radius. The truck wheelbase is 40 in., and the tread 30 in. The driving wheels are equipped with 20 x 3½-in. tires and the trailing wheels with 15 x ½-in. tires. All four wheels steer. An automatic cut-off opens the hoist motor circuit when the magnet reaches the top of travel and an automatic interlock which is controlled by the brake pedal opens the travel motor circuit when the operator leaves the driving platform or releases the foot pedal. This is an effective safety device, as it is impossible to secure power again without first returning the controller to the neutral position. The hoist and magnet controllers are in front of the operator and the hoist may be slewed by means of the conveniently located handles. A lock is provided to retain it in the central position.

The power for operating the travel and hoisting motors, as well as the magnet, is supplied by a gas-electric unit manufactured by the Ready-Power Co., Detroit. This unit consists of a compound-wound ball-bearing generator, with a maximum output of 250 amp.

providing starting voltage, potential transformers for providing 220 volts for the master switch operating current and the current limit transition relay, which connects the motor to full voltage when it has been accelerated to approximately 85 per cent of synchronous speed. A dustproof steel cabinet on the outside of the tank incloses a field switching mechanism, field discharge resistor, timing relay and d.c. field ammeter. This cabinet may also contain an automatic starter for operating a magnetic clutch. In the full voltage starter, the starting auto-transformers are omitted.

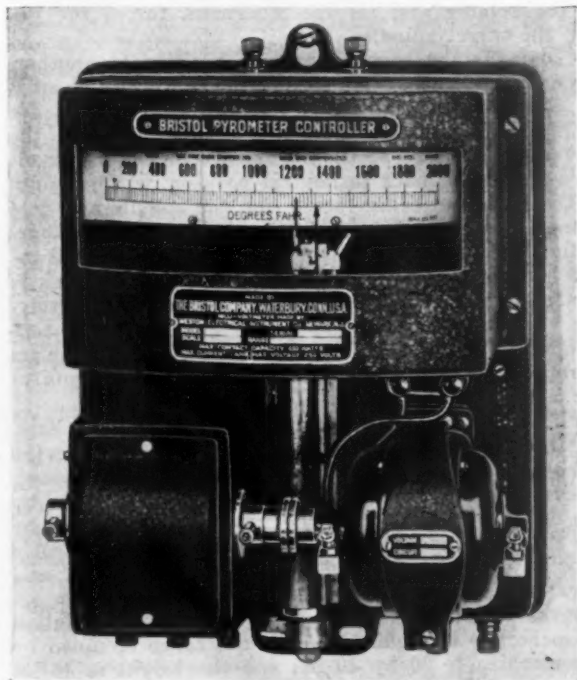
"Some Characteristics of Quenching Curves" is the title of the Bureau of Standards Technologic Paper No. 313 by H. J. French and D. Z. Klopsch, metallurgists of the bureau. It is a discussion of time-temperature cooling curves on the center of steel samples of various sizes and shapes quenched into ordinary coolants.

The sixth annual issue (1925) of the *Year Book* of the American Bureau of Metal Statistics, 115 Broadway, New York, has appeared and contains the usual detailed data on copper, lead and zinc, as well as some information on gold and silver and other metals.

Adds New Model to Line of Pyrometer Control Instruments

The Bristol Co., Waterbury, Conn., has added to its line a new pyrometer controller designated as the model No. 479. The instrument incorporates a high resistance pyrometer movement and can be used for temperatures up to 3000 deg. Fahr. It has an extra wide scale, motor drive, external contactor adjustment and working parts are accessible for adjustment and oiling.

The scale is 7 in. wide. The governor used to regulate the speed of the driving motor has been developed



Extra-Wide Scale, Motor Drive, and External Contactor Adjustment Are Features

to operate reliably and positively. All parts of the governor mechanism and gears are accurately aligned and doweled to maintain permanent adjustment. The motor, with horizontal axis, is connected to the driving shaft by means of a non-metallic coupling, to minimize friction and noise. The mechanism which transmits power from the cam to the switch, and which causes the switch to move up and down about four times a minute, is accurately mounted and adjusted with set screws. To insure against slipping or any possible change in adjustment, every joint is pinned.

The plane of travel for switch is fixed, and is designed to be horizontal when installed for operation; other parts are adjusted carefully with this as a reference place. The millivoltmeter movement is adjusted, so that the pointer swings in a plane parallel to the plane of motion of the switch. After the pointer has been aligned to follow the proper path, the anvil or plate against which the pointer tip, or steeple, is pressed, is adjusted so that the steeple on the pointer will have sufficient clearance from the plate; but will still move a minimum distance when the switch is brought up against it. The steeple which takes the pressure when the switch is brought up is, in effect, a small inverted wedge, the base of which is brought to rest on the anvil plate. The apex of this wedge is in contact with the small button which throws the switch over. This method of construction, and the very short distance which the steeple actually travels, is claimed to reduce the pressure applied to the pivots to an almost negligible amount.

The complete moving mechanism which supports the switch is assembled in one unit, which is supported rigidly in a bearing having a total area of about 4.5 sq. in., and is 6 in. long. It is claimed that, once the mechanism is set up, there is no variation in adjustment, and that there can be no play in the vertical motion of the switch. The reason for the latter is that

the switch-supporting mechanism is continuously held against the depressor arm by a stiff spring, which supplies the power to raise the switch. The motor-driven cam forces the depressor arm down against the center shaft of the switch-supporting mechanism, which lowers the switch; the spring forcing it up when the depressor arm is raised.

Another improvement is the safety adjusting mechanism for setting the position of the index at the point to which it is desired to bring the temperature. A small hinged cover is used to inclose the adjusting knob. This knob cannot be operated until the cover is opened; and the act of opening the cover automatically forces the switch mechanism to its lowest position, where it is entirely free from the pointer.

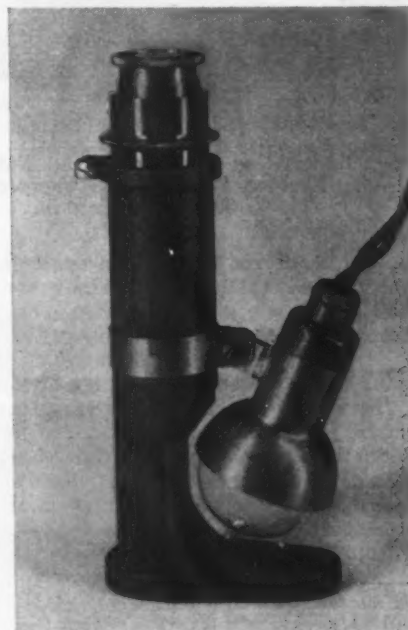
The top of each of the small buttons, against which the steeple rests when the switch is making contact, is a circle about $\frac{1}{4}$ -in. in diameter. If the pointer is near the desired temperature, whether contact is made on the high or low side is decided by a sharp knife-edge. The knife-edge is in axial line with the index, and situated midway between the two buttons which operate the switch. The pointer is depressed on either side of the knife-edge and there can be no neutral position. After being guided to one side or other by the knife-edge, the steeple operates against the top of the button, which has sufficient area to make positive operation, and throws the switch to the maximum position.

Actual tests made with this new controller are said to prove that a movement of the pointer which is too small to be observed with the naked eye, will decide whether contact is made on the high or low side. This extremely close operation is pointed to as eliminating the need for partial or set-back scales.

Brinell Microscope with Illuminator

The Brinell microscope has been improved for measuring the diameter of impressions made by Brinell hardness testing machines. In general its construction is the same as the regular Brinell microscope which metallurgists have been using for a number of years.

The Illuminator Facilitates Reading of the Brinell Indentations, Serving to Relieve Eyestrain Where a Number of Tests Are Made Successively



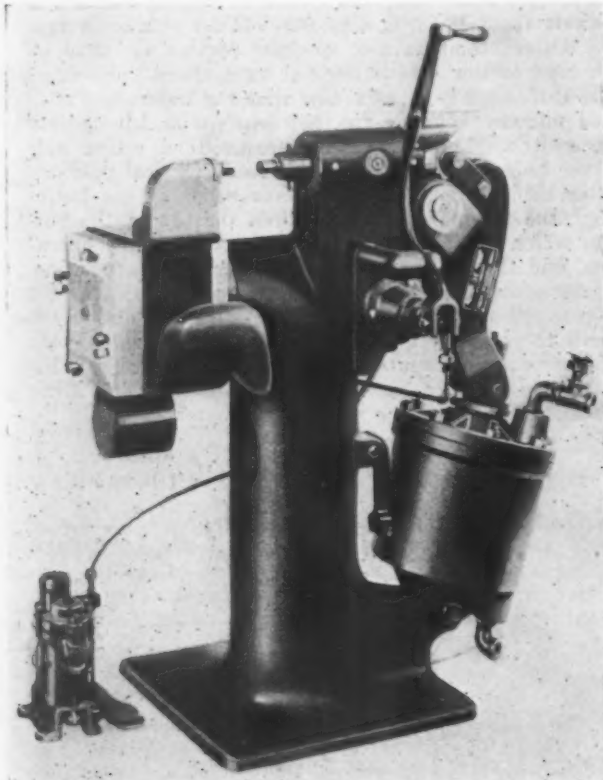
The improvement in the new instrument is the illuminator. This new device facilitates a quick and easy reading of Brinell indentations and relieves the eyestrain where a great many tests have to be read in succession. It can be connected to any light socket.

After adjusting the microscope in the factory, the focusing tube is clamped tight in the body tube by means of the screw and ring shown in the illustration. If a re-calibration should be necessary, use is made of the millimeter scale furnished with every instrument. The instrument is furnished complete with socket connection and 6 ft. of electric wire by the Pittsburgh Instrument & Machine Co., Pittsburgh.

Turret Riveter for Production Work on Automobile Chassis Frames

High production in the cold riveting of automobile chassis frames is claimed for the turret riveter here illustrated, which has been added recently to the line of the Hanna Engineering Works, 1765 Elston Avenue, Chicago.

The outstanding feature of the machine is the rotating turret head upon which four horns or noses are mounted. This turret head is arranged so that any one of the noses may be indexed to bring a stationary rivet die thereon into alinement with the movable die mounted on the plunger or ram. These noses enter the inside of the chassis frame and are, therefore,



The Outstanding Feature Is the Rotating Turret Head. The machine may be operated as fast as 50 cycles per min.

shaped to conform to the open space inside the frame adjacent and behind the various rivets. Clearance conditions at one rivet are often quite different from those at another rivet, which is similar in every other respect and which might otherwise be driven by a riveter with an identical dead leg or nose.

The riveting (pressure exerting) mechanism is the standard Hanna Rapid type. The mechanism is a combination of simple lever and toggle, which combine a long die stroke with a wide range of uniform pressure, thus eliminating the necessity of screw adjustment on the die. The die travel is rapid as the die approaches the work, the speed then gradually decreasing until the die enters the uniform pressure area of the stroke. Where the work is lightest, the speed is greatest. As the rivet head is formed, the pressure increases, reaches a maximum and maintains the maximum for several inches of piston travel. Ordinary variations in rivet lengths and plate thicknesses are taken care of automatically by the wide range of uniform pressure.

The turret head is mounted on a spindle which, in turn, is supported in bearings at each end of the barrel of the riveter frame. This spindle is of alloy steel, heat treated, and is machined to mesh with interrupted thrust grooves in the wall of the barrel. This is stressed as providing a breech-lock construction that resists the riveting thrust tending to pull the turret spindle out of the barrel. The turret head is locked in position by means of an index pin, which

selectively engages with four holes spaced around the turret spindle. These holes are bushed with hardened sockets, which have slots crosswise of their axis. The walls of these sockets are tapered to conform to wedge-like flats on the index pin at the end which enters the sockets. The taper of the wedge end of the index pin is self-locking against rotation of spindle.

The index pin movement is air actuated in both directions, but the double-acting air cylinder is supplemented by a hand-lever. The spindle is rotated by a hand-crank, which is also coupled to the valve of the index-pin air cylinder, so that crank movement longitudinal of the turret spindle pulls the index pin out of the spindle and reverse movement forces the pin into the turret spindle.

To index the turret from one position to another, the operator moves the end of the hand crank about 3 in. forward and thus pulls the pin, then rotates the crank 90 deg. about the spindle axis, bringing the turret to the next position. Release of the crank allows it to move back to neutral position, which results in the index pin being forced into the spindle and held there. Moving the crank further back releases it partially from the turret spindle, so it may be rotated independently thereof. Therefore, although the crank is limited to rotation of 90 deg., it is effective in revolving the turret through 360 deg. The primary considerations in the design of the indexing mechanism were quick operation and accuracy. Indexing requires but a second.

The riveter may be equipped with a swivel base, and in swiveling the riveter rather than swinging the work floor space required for the riveting is minimized.

Movement of the riveting mechanism is controlled by one of the standard operating valves manufactured by the Hanna company and is foot operated. The riveter may be operated as fast as 50 cycles per min., and work may readily be passed over the riveter in its progress through the shop. Little, if any, foundation or anchorage is required. The floor space occupied by the machine is 30 by 40 in., and the height is 45 in.

Portable Electric Melting Pot

Convenient portability is a feature of a 45-lb. electric melting pot which is being placed on the market by Harold E. Trent, 259 North Lawrence Street, Philadelphia. The pot is equipped with a three-heat switch, and is intended for use in melting lead, babbitt, solder, tin and other metals which melt at temperatures up to 1000 deg. Fahr. It is 10 in. in diameter and 8 in. high. The weight, empty, is 30 lb.

The pot is equipped with two handles and a pouring spout and thus it is adapted not only for ladle and dipping work, but for pouring bearings directly from



The Pot Is Adapted Not Only for Ladle and Dipping Work, But for Pouring Direct

the crucible. It will operate on a 110 or 220-volt lighting circuit, and is claimed to melt 45 lb. of lead in 45 min.

The crucible and flange are cast in one piece. The casing is of sheet steel and suitable insulation is provided between the crucible and the casing. The heating elements are of the Chromalox embedded type and are rigidly clamped to the crucible. The casing has an aluminum paint finish.

SPECIAL CARRYING RAIL

New Development in Overhead Conveying Systems Reduces Wear and Increases Life

BY A. F. ANJESKEY

SINCE Congress has placed restrictions on immigration, industry has been compelled to supplant cheap labor with sundry labor saving devices. Of the many developments of labor saving equipment, one of the commonest forms is the tramrail system. Until the last few years, overhead systems consisted of I-beams with trolley or carrier propelled on the lower flange by manual or electric power. However, even though used extensively, these have never been entirely satisfactory. The I-beam is designed primarily for structural purposes; while the angular flange does not permit the design of an easy rolling carrier. Furthermore, the softness of the steel, due to the low carbon content, soon rolls down the flange, necessitating frequent replacement of the beam as shown in Fig. 1.

Rolling down, or peening, the flange is especially noticeable when the carrier wheels are placed in a vertical position and the tread of the wheel is tapered to fit the flange angle. Even placing the wheels at an angle to correspond with the flange angle does not increase the life of the beam materially. Some mills have gone so far as to roll special I-beams of higher carbon steel, to eliminate peening, but this also has proved unsatisfactory.

In short, a careful study of the rolling action of the carrier wheels on the flange of the beam reveals, conclusively, that the peening of the flange cannot be overcome either by the use of a standard I-beam or by the use of a beam with straight flanges and higher carbon content.

What the Destructive Action Is

This can be explained as follows: The carrier wheels, by rolling or pounding on one surface of the flange, tend to elongate the steel and, at the same time, to increase the width on that particular surface. Now, since the underside surface is not subjected to the pounding action, the flange must curve downward.

When the curving of the flange once begins, the destruction of the beam for monorail purposes is hastened by the change in carrier-wheel contact on the flange. Thus, in a comparatively short time, the beam must be replaced. A section of an I-beam cut from a system, as in Fig. 1, shows clearly the condition of the flange due to the peening action of the carrier wheels.

A new tramrail system has been developed which eliminates entirely the troubles encountered with the I-beam. This system is based on a patented rail section, as shown in Fig. 2. The rail is suspended by means of a clamp fastened to the bead on top of the web. The flange over which the carrier wheels travel is straight; but this surface is raised above the flange proper to form a wearing strip, which is rolled into the rail.

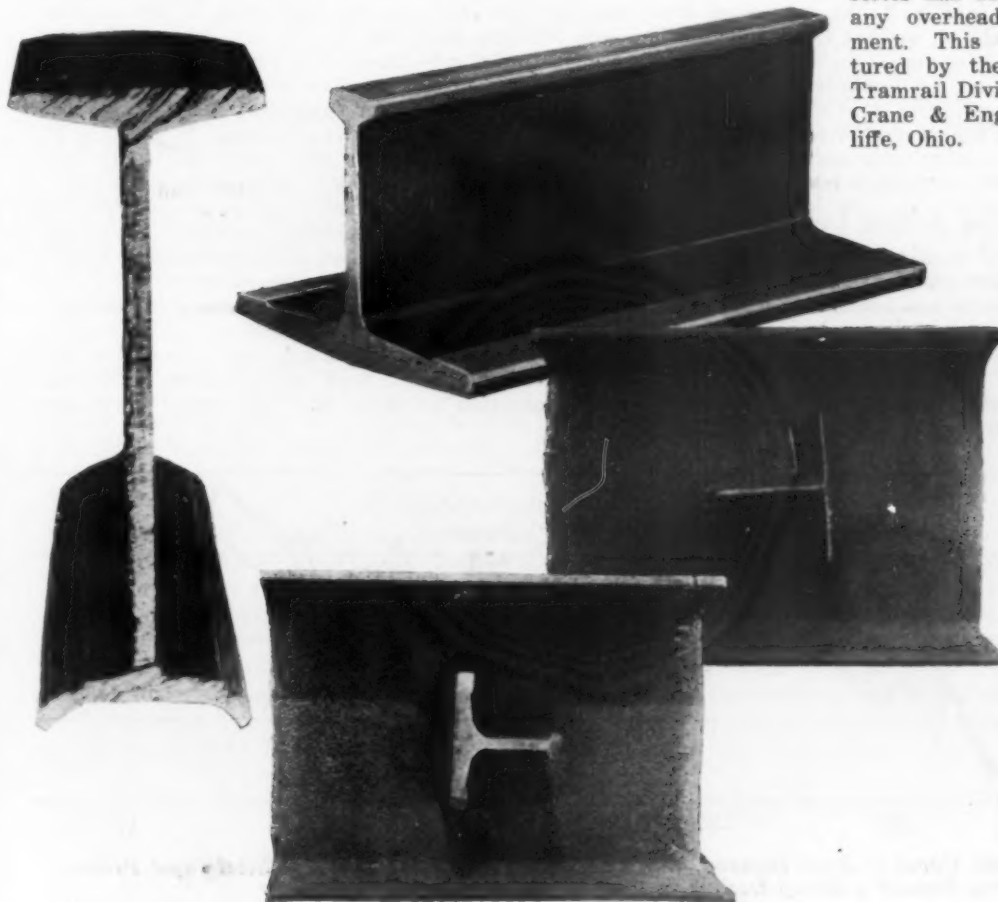
Any peening action of the carrier wheel will affect only the raised strip; and, due to the shape of the wheel used with this system, the elongation of this strip is toward the web of the rail. This elongation, however, does not affect the flange proper as, theoretically, it occurs only in the wearing strip. Under operating conditions no real elongation is apparent, while the wearing strip becomes merely polished in service.

Much Longer Life

Comparative tests have shown that the new tramrail will outlast the I-beam about four to one. In addition to the longer life of the rail, it can be bent cold on the job to a 4-ft. radius. Moreover, its capacity is two tons for either manually or electrically propelled carriers. Such short curves are not practical in I-beams for this capacity, especially with the electric carrier. Then, too, the cost of bending this rail is much lower than the cost of bending an I-beam.

This rail is rolled of steel containing 0.65 per cent carbon for toughness and 0.90 per cent manganese for wear resistance. Its toughness can best be illustrated by reference to Figs. 3 and 4, showing a piece of the new rail fashioned to a chisel point and driven through the web of an I-beam.

The rail forms a part of a standardized system known as Cleveland tramrail. A complete line of fittings, switches, cranes, transfer bridges, drop sections, elevators, hand and electric carriers, hoists and accessories has been designed to meet any overhead conveying requirement. This system is manufactured by the Cleveland Electric Tramrail Division of the Cleveland Crane & Engineering Co., Wickliffe, Ohio.



At Left Is a Section of I-Beam Rail After Severe Usage, with Lower Flange Bent and Worn to the Danger Point. At top is a piece of the new type section, showing the wearing strips at each side, to take the wheel loads and wear. The two other views are both sides of a piece of I-beam through which a sharpened piece of the new section was driven, illustrating its high quality and hard surface. The sharpened edge appears at right center

Business Analysis and Forecast

BY DR. LEWIS H. HANEY

DIRECTOR, NEW YORK UNIVERSITY BUREAU OF BUSINESS RESEARCH

Statistical Data Concerning the Chief Consuming Industries Indicate That:

Activity in chief consuming industries is less reassuring than was the case a month ago.

Car surplus makes large equipment sales unlikely.

Automobile production is being curtailed; machine tool sales off.

Building volume is on the decline;

industrial building is small; structural sales held up by large bridge contracts.

Outlook for pipe in petroleum States much better; mining demand good.

Iron and steel exports increase; imports also are heavy.

APRIL caused the composite steel-demand curve, based on activity in the chief steel-consuming industries, to decline pretty sharply, falling back to a point near the level that existed last August. In the same month the production of steel ingots remained practically unchanged. As a result, it may be said the potential demand for steel has fallen near to the rate at which current additions are being made to the supply. In April, the two factors were in close adjustment.

The decline in the composite demand curve is due to the following conditions: In the first place, railroad traffic has failed to show the usual seasonal gains and the adjusted curve declined in April and May to a level about equal to last July. This is due chiefly to the fact that the average freight load per car is only a little over 26 tons.

In the second place, there has been a steady decline in building activity, making due allowance for seasonal conditions. As shown in Fig. 3, the volume of contracts awarded has declined, so that the trend line is much the same as it was between June and July a year ago. The adjusted index of automobile production shows a similar trend and, in spite of the large output by some manufacturers, the total, eliminating the merely seasonal movements, is about equivalent to the June-July level of 1925.

Manufacturing Activity Lower

EXCLUDING iron and steel and automobile production, general activity in manufacturing industries and in machine tool orders has begun to decline, also, and agricultural purchasing power has for several months been little better than in the early part of 1924.

The brightest spots in steel consumption in April appeared in mining (including petroleum) and exports.

While bituminous coal and copper production declined, the output of anthracite and activity in the oil fields have more than offset the other losses. Production of crude oil is well sustained, and drilling activity has increased sharply. This condition is reflected in the excellent demand for pipe which has existed during the last month or two.

The outlook for the future is such as to make it practically certain that the composite demand curve will continue its downward trend. The key industries are, of course, railroads, building and automobiles. In each of these the outlook from the steel producers' angle is moderately unfavorable. Railroad tonnage during the last two months has fallen considerably short of the increases which usually occur at this season and, accordingly, the trend is downward. The current recession in business is bound to affect freight traffic. It may be noted that last week merchandise car loadings fell below the same week of 1925 and have been running relatively low in the Central West and the South for some time. The past heavy maintenance expenditures of the carriers are now finding expression in reduced need for equipment.

As to building, there is no change in our previous forecasts. April permits were below the same month of last year and there was a sharp drop in the contemplated construction and floor space contracted for, when allowance is made for seasonal conditions. The number of real estate transfers in representative cities of the country has declined for two months.

Demand for sheets and strips tells the story as to automobiles. This business continues highly irregular, with a general declining trend. In view of the enormous accumulation of used cars it seems certain that over-production is faced and that rapid curtailment

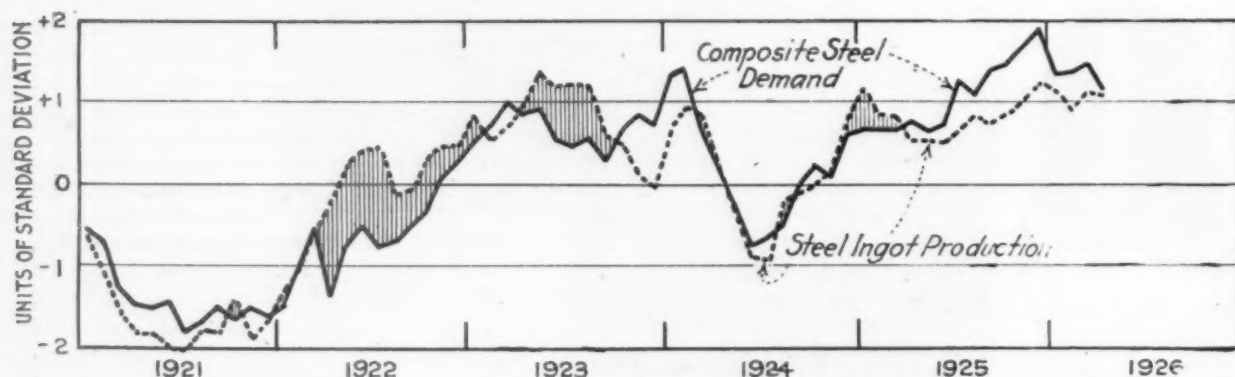


Fig. 1—The Composite Curve of Steel Demand, While Still Well Above the Curve of Steel Ingot Production, Showed a Sharp Decline in April to the Level of Last Summer

In This Issue

Study of distribution is imperative, says expert.—National income does not furnish buying power sufficient to take entire output of American factories. So we now have a keen struggle between industries for a share of money available.—Page 1689.

Saves \$6,000 yearly by carrying own accident insurance.—When steel manufacturer found that only 57 per cent of insurance companies' income was paid out for claims, he decided to carry his own insurance. The first year he made a net saving of 42 per cent.—Page 1690.

Looks for a decline in steel demand.—The demand curve of the three chief steel-consuming industries (railroad, building and automobiles) points downward, says Dr. Haney.—Page 1652.

Conveyor is equipped with an automatic electric weight recorder.—An ingenious mechanism varies the current according to the weight of the material conveyed, registering on a wattmeter indexed in units of weight rather than in kilowatt hours.—Page 1637.

Foreign automobile manufacturers are following Ford example.—Their endeavors to readjust manufacturing operations for large scale production are creating a demand for automatic machinery.—Page 1645.

Accuses steel industry of using antiquated sales methods.—The practice of varying prices to meet local or special conditions is a relic of the past, says speaker at boiler manufacturers' convention. Points to low earning power as the natural result of failure to adopt up-to-date sales methods.—Page 1639.

Lake ore shipments considerably below last year.—Up to June 1 only 6.1 million tons had been shipped as compared with 10.4 millions for same period of last year.—Page 1690.

Predicts opening of bigger market for American machine tools in Europe.—Foreign manufacturers realize they can not compete with United States without revolutionizing their production methods, says machine tool builder. American machine tool builders with adequate representation in Europe will profit most from the business which will "break" within two years.—Page 1645.

Reverts to use of steel caissons for foundation of New York skyscraper erected on "made ground."—Instead of employing concrete caissons, now commonly used instead of steel, builder of New York *Evening Post* structure decided on caissons and cofferdams of fabricated plates.—Page 1641.

Will the large accumulation of used cars cause curtailment of automobile output?—Economist predicts lower manufacturing rate in motor car industry to avoid over-production.—Page 1652.

Steel industry makes new high record for 12 months' consecutive output.—Almost 45.5 million gross tons of ingots was produced in 12 months ended May 31, nearly 0.5 million tons above the previous record.—Page 1662.

Believes accurate advance information on the trend of employment would help to iron out kinks in the business curve.—American Statistical Association committee urges Government to extend collection of employment statistics as a means of forestalling business depressions due to over-production.—Page 1644.

Cadillac tests valve springs on automatic scales.—Pressure necessary to effect maximum compression is determined by simple means.—Page 1637.

Says steel industry is singularly backward in market cultivation.—It is the only large industry that does not interest itself in the ultimate consuming market, Steel Construction Institute official declares.—Page 1639.

May steel ingot output off 4.3 per cent.—Daily average was 151,744 tons, 6869 tons under April daily figure but 14 per cent above May, 1925.—Page 1665.

Alloy steel staybolts have proved satisfactory in service.—Ford's experiment in reconditioning D. T. & I. locomotives has demonstrated, after three or four years of use, that staybolts made of a material with a higher tensile strength than wrought iron will endure.—Page 1663.

Is the granting of paid vacations to unsalaried employees a profitable "expense?"—The practice is increasing, Government investigation reveals. While it is costly when viewed only from the angle of unearned wages paid out, there is a growing belief that the fruits of better health, reduced labor turnover, and bettered morale counterbalance the cost.—Page 1662.

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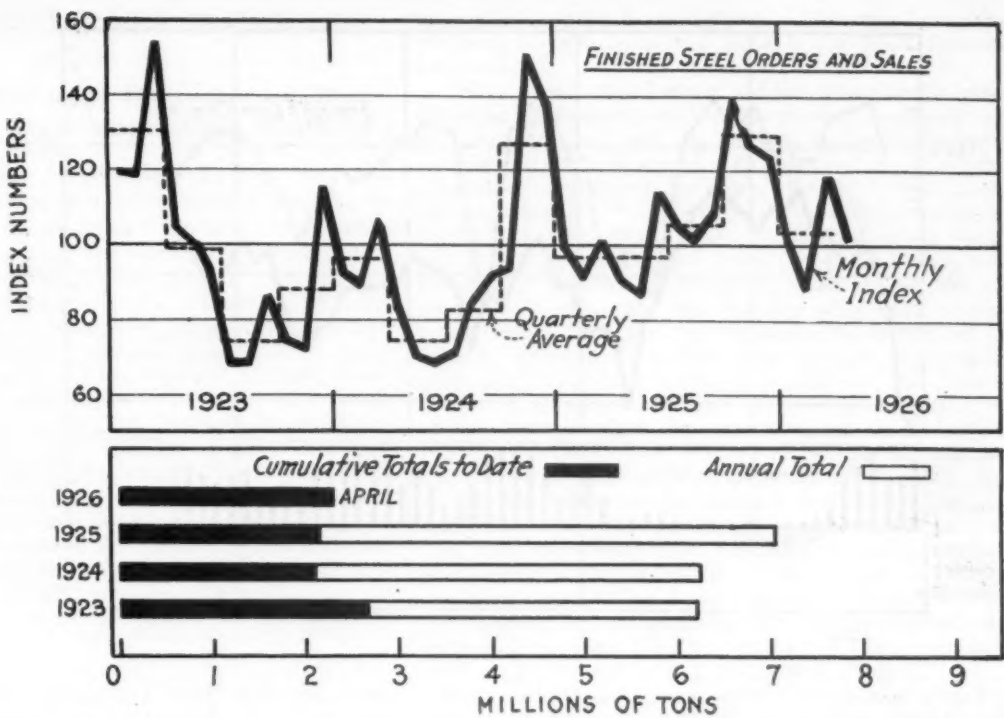
Ways of Making Statistics Useful

PRODUCTION and other statistics are given in these pages in various ways in recognition of various needs. Sometimes they appear without tabulation, and sometimes as detailed tables of figures. Again they take chart form, with a range from the fully delineated curves that are the easy understanding of the engineer to the graphic line picture that tells a story at a glance.

In connection with the production statistics for pig iron and steel ingots, a trend line is used (See page 1665), serving to indicate whether and to what extent output is above or below the amount which in the long run corresponds to consumption. In the "Business Analysis and Forecast" department (See page 1652), Dr. Haney uses index numbers, which Secretary of Commerce Hoover believes the business man should learn to make his servant. Readers today demand a service unthought of yesterday.

For News Summary See Reverse Side

Fig. 2—Finished Steel Orders and Sales Have Done Well So Far This Year. The adjusted monthly index number has recovered sharply from its low point and now stands well above the average level of any year since 1923



will soon be necessary which, while it is the best course for the automobile producers, means less business for steel manufacturers.

Situation Differs from 1925 and 1924

THERE is considerable interest in comparing the outlook for the near future with developments at this time in 1924 and 1925. At the beginning of last year steel production ran up sharply to a peak in January considerably in excess of the indicated current demand. Consequently, sharp curtailment ensued. The demand, however, held up well in the building and automobile trades and, accordingly, steel production picked up again before the end of the half-year. In early 1924 there was a marked increase in automobile production, and building activity was large. This development interrupted the general downward trend of business and caused a sharp recovery in steel production in the first quarter. Then demand slumped from March through June and steel production followed the demand curve closely in its downward course, only to turn up with it in August.

Now, however, the situation is materially different. Steel production has been steadily maintained at a high level for an unusually long period. The production curve has been lower than the demand curve, but the latter is now swinging downward in a major decline

and is about to fall below the trend line of steel production. The chart suggests a longer, steadier decline in output than occurred last year. If production is kept closely adjusted to demand, the decline may be moderate and steady. A great deal depends on this adjustment between supply and demand. The reports show a decline in the number of furnaces in blast, but pig iron production is clearly excessive, and steel production will have to be curtailed promptly if it is not to run above the demand curve.

Finished Steel Still Doing Well

OUR second chart shows that, thus far in 1926, orders and sales of finished steel have done well. The first quarter is far from the 1923 record, but makes a better showing than the first quarter of either of the two intervening years. The cumulative total through April is larger than in 1924 or 1925 and the April index is much higher. These facts certainly warrant the statement that the volume of new business in finished steel has thus far been satisfactory.

It remains, however, for May and June to tell the story. If May orders show decline at the same rate as April, or more rapidly, and if June continues with a good sized decrease, the outlook will seem unfavorable. Just at present the downward trend of the composite demand curve and of the P-V line, taken together with

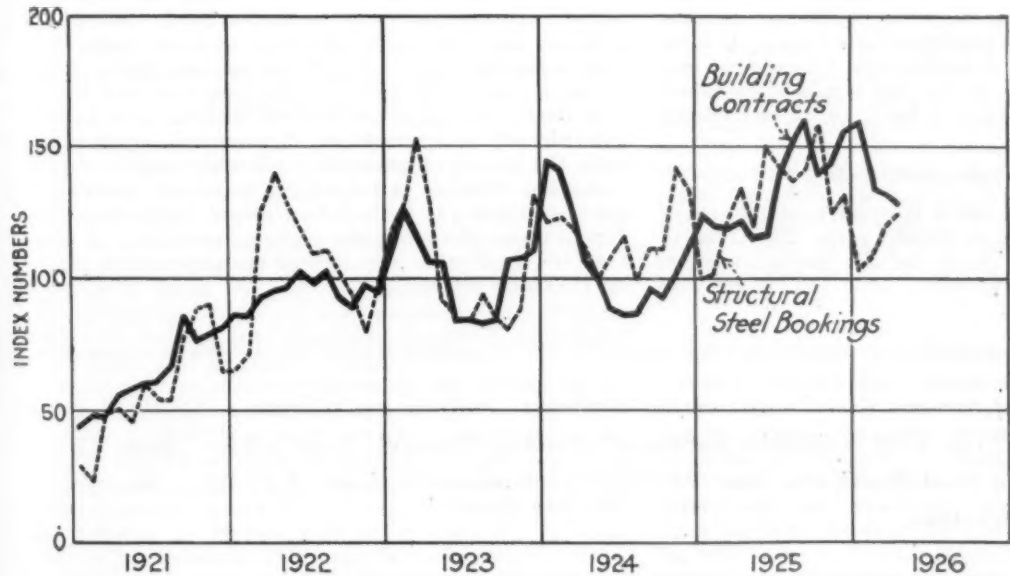


Fig. 3—Bookings of Structural Steel and the Curve of Building Contracts Awarded Are Moving in Opposed Directions. Heavy bridge and other construction work not measurable in terms of floor space accounts for the up-movement in structural steel

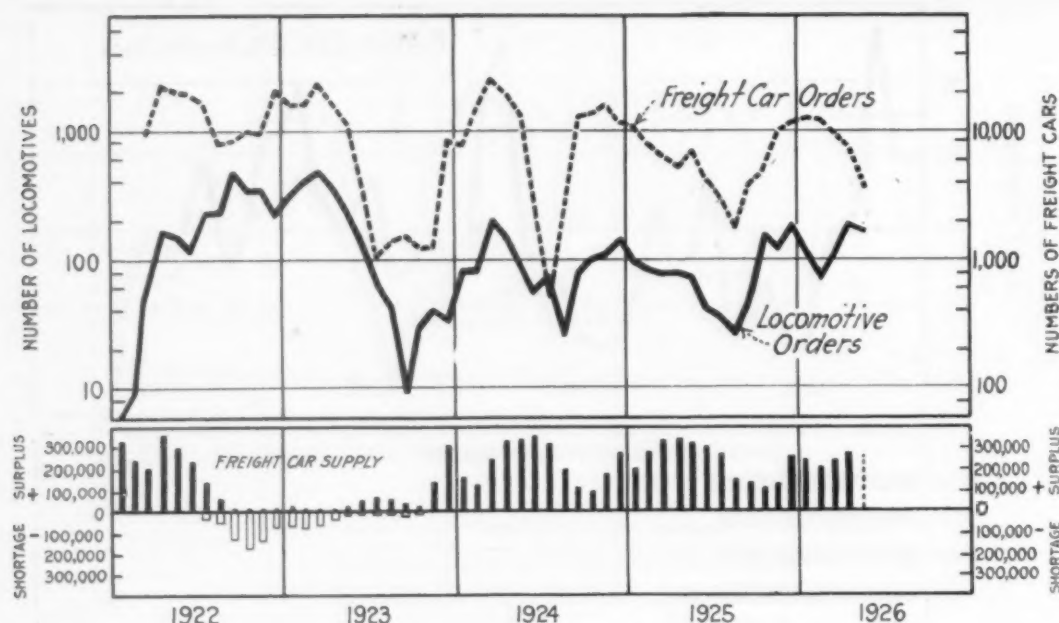


Fig. 4—Locomotive Orders Show an Encouraging Movement, But Freight Car Business in May Was the Lowest in 23 Months. Both curves are here plotted as a 3-month moving average

the rather unfavorable prospects in the leading steel-consuming industries, hold out little hope of favorable developments.

Building Activity vs. Structural Steel

A GLANCE at Fig. 3, which shows the trend of building activity and of structural steel bookings, reveals two apparently conflicting facts. On the one hand, building activity, allowing for seasonal ups and downs, shows a downward trend; on the other hand, the bookings of structural steel show an equally decided upward trend.

The apparent discrepancy is due to the fact that seasonal variation is eliminated in the case of the building data, while the structural bookings are unadjusted. Also, recent bookings of structural steel have consisted in large part of material for bridges and other construction not covered in the reported contracts for building floor space. The first explanation is probably not so important as the other, for in the past the two curves have, on the whole, moved in a similar way. Moreover, the divergent trends have existed for three months.

The downward trend in building activity is clearly established and all indications are that it will continue. The only sustaining factor is the prevalence of low interest rates. Structural steel bookings, however, while lower in April, 1926, than in 1922, 1923 or 1925, are moving much as they did a year ago, when the trend was also upward. Last year the bookings fell off in May, but this year the indications from current weekly reports are that May will show a gain. The average of the last four weeks in May was 37,500 tons, against about 28,000 tons in the preceding four weeks. If these indications are correct, it would mean a movement contrary to the usual May decline and would be explained by the recent heavy volume of bridge work and miscellaneous construction.

Railroad Equipment Orders

ONE of the weakest spots in steel consumption of late lies in the field of freight cars. The trend of freight car orders, as shown by the moving average in Fig. 4, is sharply downward. Only 435 freight cars

were ordered in May, the lowest monthly total since June, 1924. In fact, the curve of freight car orders looks more like the 1924 situation than it has in any recent year and the supply and condition of railroad equipment are such as to indicate that no such sharp rebound as occurred in the second half of 1924 is probable.

Orders for locomotives continue to make a better showing than those for freight cars. May reports indicate a total of 50, which is almost exactly the same as a year ago. But last year orders fell off in June, while current reports indicate that already this month orders have been placed for 99 locomotives.

Sustained High Automobile Production

With motor car and truck production reaching an estimated total of 420,000 to 430,000 vehicles in May, against 454,000 in April, *Automotive Industries* points out that the industry continues in one of the most amazing periods of its history. "The record activity of the year to date has overthrown the calculations of the most enthusiastic observers of trade conditions, and meanwhile sales are continuing at a level that makes any drastic cuts in output unlikely to occur for several weeks.

"Although June production will probably be somewhat under May," it adds, "this will be due as much to plant adjustments in preparation for new models as to any other factors.

"Meanwhile the industry is showing the greatest interest in the next move of Henry Ford. The Ford company has lost ground this year to other large factors in the business and everyone expects him shortly to make some drastic move. The Dearborn and Highland Park factories in the last two months have undergone drastic reorganization of personnel, apparently with the object of promoting efficiency and lowering costs, but whether this presages improved models or price reductions, or both, is an element of mystery. To some extent, of course, the plans of producers of cars near the Ford price level depend upon the action taken by the Ford company."

The schedule of the next installments of the *Business Analysis and Forecast*, by Dr. Lewis H. Haney, Director, New York University Bureau of Business Research, is as follows: **June 17**—Position of Iron and Steel Producers; **June 24**—General Business Outlook; **July 15**—Activity in Steel Consuming Industries.

OPPOSES COAL RATE INCREASE

Steel Industry at Chicago Dependent on Mines in Pennsylvania, West Virginia and Kentucky

WASHINGTON, June 8.—Pointing out that the Chicago district steel industry owes its present position to the development of the so-called "crescents," representing freight rate groupings for certain coal mining districts, the Illinois Steel Co. has filed a brief as an intervener against a petition of the Illinois Coal Traffic Bureau, representing operators of mines in Illinois and Indiana, which challenges the reasonableness of rates from the crescent mines to the Chicago switching district and other points north. The outer and inner crescents are located respectively in West Virginia and Kentucky on the one hand and in eastern Ohio and western Pennsylvania on the other. The Illinois Steel Co. obtains low volatile coal from the Pocahontas region and high volatile coal from eastern Kentucky. It contends that on account of the absence of any material competition between the Indiana and Illinois coal and the crescent coal, undue prejudice and preference do not exist, and that present rates from the crescents are reasonable.

"Steel making was comparatively a small industry until after the discovery of the Connellsville coal fields and of iron ore in the Lake Superior district," says the brief of the Illinois Steel Co. "This was long before the discovery of the by-product coking process. Coal of the steel and gas variety is produced in the immediate vicinity of Pittsburgh. The Connellsville field produces coking coal which, in the beginning, was the main source of the coke supply. When steel mills were established in Chicago and the West, the coke came from the beehive ovens in the Connellsville district, which originally was in the outer crescent. The rates on coke from Connellsville were somewhat higher than from Pittsburgh to Chicago, and that spread is still maintained.

"When the amount of coking coal available in the Connellsville district became restricted about 1899, the Federal Steel Co. purchased 11 mines in the Pocahontas region of West Virginia, built beehive ovens, and

shipped coal and coke to Chicago. This was low volatile coal, however, and not suitable for blast furnace purposes.

"This Pocahontas district had the Connellsville basis of rates. The rates from Pittsburgh were reduced from the inner crescent and the original Connellsville basis formed the outer crescent. This spread in rates was predicated partially on the value of coal for metallurgical purposes. * * * We built our first battery of by-product coke ovens at Joliet, Ill., 15 or 16 years ago and secured our coal from the Connellsville and Pocahontas regions, although we tried to use the Indiana or Illinois coal. We had the same basis of coal rates from Pittsburgh and Connellsville as applied on coke to Chicago from the same points. By-product coke ovens are now taking the place of the beehive ovens, which, when worn out, are not replaced.

"In 1916 or 1917 we were forced to seek further supplies of the proper kind of metallurgical coal and started to develop the coal properties at Lynch, Ky., in Harlan County, in September, 1917. The coal produced there is used in conjunction with the low-volatile coal from the Pocahontas region, and makes the best mixture for coking purposes. Steel makers in Chicago territory have been in direct competition with the Pittsburgh district, consequently Chicago manufacturers have had to watch their fuel and other costs very carefully on account of their geographical location."

It is declared that extension of the inner crescent and outer crescent basis of rates from Connellsville into eastern Kentucky aided the development of the steel industry and made possible the growth of the Chicago territory as a steel-making district.

If rates from the crescents were raised substantially, it is asserted the Illinois Steel Co. would be forced to haul coal to Lake Erie and bring it into Chicago by water, "or, if we could not do that, we would have to use oil. We have done so before and are now equipped to use it."

The brief names other steel makers in the Chicago district which use crescent coal, and a witness is quoted as saying that the coke ovens in the Chicago district consume 11,012,650 tons of this coal per year. With the Illinois Steel Co.'s added production from 140 ovens, it is stated, the crescent coal used will be increased to 11,900,000 tons.

Awards Cruiser Contract to Cramp Shipyard

WASHINGTON, June 8.—The Navy Department has just awarded to the Cramp shipyard a contract for the construction of light cruiser No. 25, together with propelling machinery for both this cruiser and the one which the department will build at the New York navy yard. Approximately 6000 tons of steel, two-thirds of which will consist of plates, will be required for light cruiser No. 25. Awarding of the contract for this cruiser and propelling machinery had been delayed since last March.

New Unit to Aid Industry in Eliminating Unfair Practices

WASHINGTON, June 8.—The Division of Trade Products Conference has just been established by the Federal Trade Commission. According to the commission, in this division will be coordinated and facilitated all work incidental to holding conferences with representatives of industries for the purpose of aiding such industries to adopt rules of business conduct looking to the elimination of harmful or unfair trade practices. The new division will take over the trade conference work heretofore handled by several divisions.

In its announcement concerning the setting up of the new division the commission said:

"The conferences, which are get-together meetings, may be called by the commission upon its own initiative or by a representative group in any industry. The commission has found that it not infrequently happens, particularly in highly competitive lines of business, that unfair methods of competition once started have

spread rapidly and become generally practiced, and that a situation of this kind can best be handled by a conference rather than by proceeding against individual concerns."

To Help the Patent Office to Function

WASHINGTON, June 8.—To facilitate the handling of patent business, a special Patent Office committee has recommended to Secretary of Commerce Hoover the construction and equipment of a new and modern building, increased technical force with adequate salaries and amendment to existing patent law. The first recommendation calls for providing modern equipment, including steel vertical filing cases.

Only by higher salaries can competent examiners and others be held in the service, says the report, which contains 108 separate recommendations. Change in statutes governing practice in the Patent Office is designed to reduce the appeals in interference cases to a single appeal in the office. The change would make the Patent Office decision final, except as it may be reviewed in equity proceedings by the United States district court.

United States Civil Service examinations are announced for ordnance engineers. One vacancy for senior ordnance engineer at \$5,000 per year and vacancies for ordnance engineers at entrance salary of \$3,800 per year are to be filled. Receipt of applications for the former will close June 22; for the latter, June 29. Information and application blanks may be obtained from the Civil Service Commission, Washington, or at the Post Office or Custom House in any city.

Rates to Houston Held Unreasonable

Examiner Recommends Lower Rate on Black Plate—Distinction Between Plates and Sheets Considered

WASHINGTON, June 8.—Passing upon a complaint of the Davis George Mfg. Co. and the Moncrief-Lenoir Mfg. Co., manufacturers of stoves, stove pipe, etc., at Houston, Tex., Examiner W. R. Brennan has recommended that the Interstate Commerce Commission find that railroad rates charged on black plate iron shipped subsequent to Jan. 1, 1922, from points in Alabama, Indiana, Illinois, Kentucky, Missouri, Pennsylvania, Virginia, West Virginia and other interstate points to Houston, were, and for the future will be, unreasonable to the extent that they exceeded, or exceed, more than 133 per cent of the rates maintained from St. Louis to Houston. The commission also should find, the examiner said, that the railroads should align rates from origins other than Pittsburgh with rates which the examiner found reasonable. Award of reparation was recommended. The present St. Louis-Houston rate is 57c. per 100 lb., so that the recommended Pittsburgh rate would be 75.81c., compared with the present all-rail rate of 87c. charged on both sheets and plates.

The case dealt largely with the question of tariff interpretation, being dependent upon what is plate iron or steel and what is sheet iron or steel, and there also was the question of the distinction between plates and sheets based upon the gage. The examiner said that, in the absence of any authoritative or controlling distinction, and in view of the fact that the highest gage of plate iron or steel that has been referred to as making a distinction is No. 20, it is clear that iron or steel of a gage No. 26 and lighter, falls within the designation sheet iron or steel.

The railroad exhibits showed extracts taken from THE IRON AGE to prove that the iron and steel industry does distinguish between plates and sheets, as THE IRON AGE shows the relative production of plates and of sheets. The railroads also showed that generally they considered sheet iron or steel as anything from No. 14 to No. 31 gage, and plate iron or steel as anything of No. 13 gage or thicker. They contended that the United States standard gage of thickness should be used as the determining factor.

In this connection the examiner said:

"Much confusion appears to exist in this respect, not only in the commercial world, but also as between shippers and carriers. It is apparent that no hard and fast rule has been set or used in distinguishing sheet iron from plate iron. On March 3, 1893, Congress enacted a law establishing a standard gage for sheet and plate iron or steel. This law establishes a standard gage, dependent on thickness, of sheet and plate iron and steel, but it does not differentiate between plate iron and steel, and sheet iron and steel. Sheet and plate iron or steel is produced in tin mills and sheet mills. The raw material used is the same, and the products of the mills are of the same gage. The product of the tin mill ranges up to 76 in. square, while the product of the sheet mill ranges up to 48 in. wide and 12 ft. long."

In pointing out that the record relates principally to the rate from Pittsburgh, the examiner said this is mainly because of the fact that it was the practice of the steel mills to add the Pittsburgh rate to the price of the commodity, no matter where the shipment originated.

"For instance," it was stated, "on a shipment from Gary, Ind., the Pittsburgh rate was charged to the consignee, which resulted in the mill receiving an arbitrary freight allowance of from 3c. to 7c. This practice of the mills has been discontinued. The record furnishes no adequate basis for fixing the rate from origins other than Pittsburgh."

Industrial Engineers to Hold National Convention in Philadelphia

"Practical Methods for Eliminating Waste" will be the major topic at the thirteenth national convention of the Society of Industrial Engineers to be held at the Bellevue-Stratford Hotel, Philadelphia, June 16, 17 and 18.

Actual cases of waste due to lack of coordination between the various parts of a business will be given by several speakers, including W. W. Crawford, president of the Edward Valve & Mfg. Co., East Chicago, Ind., at the opening session. "Waste Elimination in the Newport News Shipbuilding & Dry Dock Co., Newport News, Va.," by W. B. Ferguson, production manager of that company, is one of three papers planned for a manufacturing session, to be held on the evening of June 16.

One of the papers at a distribution session scheduled for the morning of June 17, is by Walter Drey, vice-president of *Forbes Magazine*, New York, on the subject of "Expecting the Impossible of Advertising." The object of the paper is to show the waste arising from the wrong use of advertising to fight economic and fashion trends. At this session there will also be open discussion of some causes of waste in distribution and means for prevention.

A dinner meeting under the auspices of the society's committee for the elimination of unnecessary fatigue will be followed by a labor session at which W. D. Stearns, superintendent of personnel, Westinghouse Electric & Mfg. Co., East Pittsburgh, will speak on "Developing Foremen in Order to Reduce Waste." "Employee-Cooperation in the Elimination of Waste in Industry," by George Hodge, assistant manager of the industrial relations department, International Harvester Co., Chicago, is another paper planned for the labor session. A paper on "Eliminating Labor Wastes by Providing Improved Mechanical Facilities" will also be presented by H. J. Payne, electric industrial truck

department of the Society for Electrical Development, Inc., New York.

At the banquet, to be held on the evening of June 18, H. G. Moulton, director of the Institute of Economics, Washington, D. C., will speak on "Economic Maladjustments Resulting from Disordered Currencies, Disrupted Markets, Changed Currents of Trade, etc.," and L. W. Wallace, executive secretary of the American Engineering Council, on "The Industrial Engineers' Part in the Waste Elimination Movement."

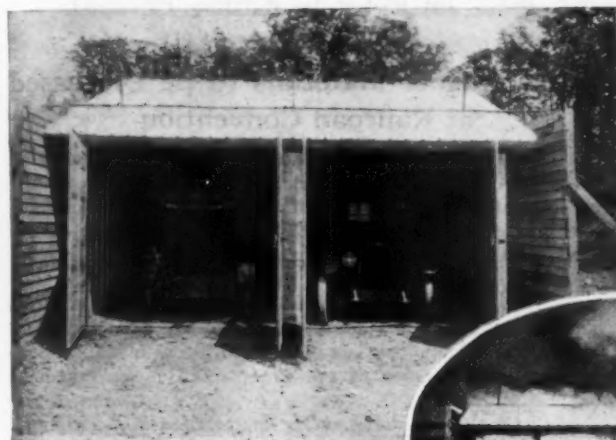
Inspection trips will be made to nine plants, including that of the Alan Wood Iron & Steel Co., Conshohocken, Pa., Edward G. Budd Mfg. Co., Leeds & Northrop Co., and the Brill Car Works, Philadelphia.

No Sign of Settlement of Molders' Strike in Cincinnati

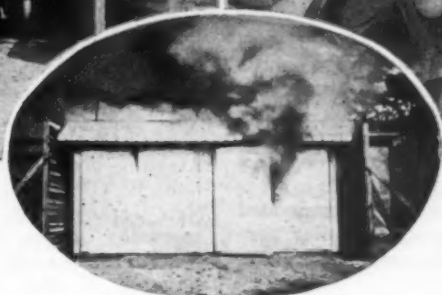
CINCINNATI, June 8.—The local strike of union iron molders is entering its second week, with no signs of a termination in the immediate future. It is understood that an offer of a compromise by the strikers which would give them a wage increase of 50c. a day has been rejected by the employers, who steadfastly refuse to pay more than \$7 a day, the wage which prevailed up to May 31. Local industries, such as the machine tool builders, have not been affected by the strike, because independent foundries have sufficient capacity to take care of current needs.

Earnings in factories in New York State are reported by the Industrial Commissioner to have averaged \$28.85 per week in April, compared with \$29.03 in March, and \$29.05 in both December and January. Except for the three months mentioned, the April figures are the highest since October, 1920. With that further exception (\$28.93), they are the highest in the history of the State.

Fire Test of Sheet Steel Garage



**Violent Conflagration
Totally Con-
fined**



**Effect Studied on
Closely Adjacent
Wood Walls**

THE efficacy of the all-steel garage as a fire retardant has been given two severe tests at the Bureau of Standards. One was given on May 18. The other, consisting of two demonstrations, was given on June 3.

The garage, an 18 x 18-ft. standard commercial structure, not only withstood the attack of the blazes but gave a performance of endurance that exceeded expectations. The test was made by the bureau at the request of Director George L. Bennett of the building trade extension department of the Sheet Steel Trade Extension Committee, who was present at the tests. Their primary purpose was to determine the hazard to neighboring construction.

The garage stands as intact as it was before the fires. The walls and roof are of galvanized sheets. The supports are $1\frac{1}{2}$ x $1\frac{1}{2}$ x $\frac{1}{8}$ -in. rolled steel angles. Even these light angles passed through the intense heat without buckling.

Frame walls were erected at various distances from the garage. This was done in accordance with differing city fire regulations relating to risks. In the first test one frame wall stood 12 in. from the garage, another, 18 in., and the third, 2 ft. All the walls ignited, due to radiation from the sheet metal. No breaks or openings occurred in the steel garage itself. Smoke issued from one door, which was partly open during the test to admit the necessary air for the free combustion of the contents. The frame walls ignited from radiation after a period of 30 to 60 min. On the first test it was possible to control the fire on each wall with a 5-gal. pump fire extinguisher.

In the second test the walls were placed at distances of 3 ft. and 5 ft. from the garage, which was fired with two automobiles in it. The nearer of the two walls was scorched in spots and ignited, while the 5-ft. wall was not affected. Also, a second all-steel garage was placed adjacent, with the nearest wall 2 ft. from the garage tested. It was found possible to place the hands on the wall of the second garage, and more than that, inflammables in the garage, including a car with gasoline filled tank, a wooden bench and oil-soaked rags did not take fire.

The intensity of the heat in the garage which was set afire can be seen from the condition of the two cars which it contained. The glass windshields were melted, as were the headlight lenses. The aluminum also was melted down. The gasoline tanks at the time of ignition were two-thirds full, but no explosion occurred, a mere sizzling sound being heard as the gasoline vaporized and burned. It was noted that the steel frame, wired windows also resisted the heat splendidly. They

were cracked but gave no indication of falling or leaving an opening.

S. H. Ingberg, chief of the fire resistance section of the bureau, explained that city regulations for the distance between buildings and garages are not uniform throughout the country and expressed the hope that these tests will help to obtain more uniform requirements.

A Century in Steel Jobbing Business

Beals, McCarthy & Rogers, Buffalo, steel jobbers, are celebrating the hundredth anniversary of the founding of the business. The originator was Samuel F. Pratt, who opened a hardware store in Buffalo in 1826. Buffalo was then a struggling frontier hamlet. In 100 years only five names have appeared over the door—Pratt, Beals, Brown, McCarthy and Rogers. Eugene J. McCarthy and Charles P. Rogers are the present heads of the company.

At the recent meeting of the American Iron, Steel and Heavy Hardware Association at Atlantic City Charles P. Rogers, who was in attendance, was congratulated by the association as a body. Mr. Rogers told of the completion of the company's new steel warehouse and gave a few details of a plan of employee representation in the management. He said that about 10 of the department managers and 10 of the salesmen had been admitted as stockholders, each being given an opportunity to purchase stock on an instalment basis. This plan, Mr. McCarthy said, had created a fine spirit of cooperation within the organization and has encouraged the younger men in the company to take greater responsibilities in the management to the benefit of the business generally.

Officers of Steel Treating Chapters

The Detroit chapter of the American Society for Steel Treating has elected officers for the ensuing year as follows: Chairman, Robert Atkinson, Halcomb Steel Co.; vice-chairman, Harry Martin, Dodge Brothers, Inc.; secretary-treasurer, Mr. Zimmerly, Rickenbacker Motor Co.

The new officers for the ensuing year of the Cincinnati chapter of the American Society for Steel Treating have been chosen as follows: Chairman, W. R. Klinkicht, Pollak Steel Co.; vice-chairman, A. J. Lucas, Cincinnati Gear Co.; secretary-treasurer, Fred L. Martin, National Metal Trades Association.

BOILER MAKERS MEET

Discussed at Hot Springs Last Week the Computing of Boiler Operating Results

Guarantees on boiler performance were discussed at considerable length at the annual meeting of the American Boiler Manufacturers' Association held at Hot Springs, Va., May 31 to June 2, inclusive. The meeting was well attended, there being about 50 per cent of the active members present. At the opening session, President George W. Bach in his annual address discussed trade extension work. Among the speakers were Charles F. Abbott, executive director of the American Institute of Steel Construction, whose remarks are reported elsewhere in this issue.

The subject of computing boiler operating results was discussed in a report of the stoker committee submitted by its chairman, A. G. Pratt, Babcock Wilcox Co., New York. The report referred to a paper presented at the annual meeting a year ago by William H. Jacobi, of the Springfield Boiler Co., on guarantees on boiler performance. In this the author recommended that methods be modernized by expressing boiler performance in terms of uniform flow of combustion gases of stated heat value.

Under instructions of the association this paper was considered by the stoker committee in a report made at a meeting of the association last February. The stoker committee decided that the American Boiler Manufacturers' Association should take a stand for or against the suggested method of expressing boiler performance before submitting the matter to the joint committee of the A. B. M. A.-S. M. A. The committee also held that before a revised method of expressing boiler performance can become generally used, the approval of the test code committee of the American Society of Mechanical Engineers must be secured and a complete understanding of the engineering involved in the change of method of expressing boiler performance must prevail among boiler manufacturers, fuel burning equipment manufacturers, and users of such equipment. With these points in mind the committee offered a resolution summarized as follows:

Attitude in Determining Boiler Performance

It is the feeling of the members of the association that existing methods of computing boiler operating results are obsolete and the association should work toward the expression of such results in the following form:

In determining the performance of a boiler and furnace, the company furnishing the combustion apparatus shall have an opportunity to designate the operating conditions of the equipment and be responsible for the amount of air, the draft required in the furnace, the CO₂, CO, and loss due to unburned combustible, based on the fuel and ultimate analysis thereof with relation to the surrounding furnace condition. In other words, responsibility of fuel shall lie with the manufacturer of the combustion apparatus.

When complete combustion is satisfied it shall be considered that the entire heat energy made available resides in the resulting gases and that the manufacturer of fuel burning equipment shall not be responsible for any variations thereof, providing combustion has been satisfactorily completed in accordance with his own statement.

The completeness of combustion of the fuel shall be determined by measurement of the resulting gas constituents made at some point in the boiler and the average values at this point shall not be less than the state percentage of CO, as specified by the manufacturer of the combustion apparatus.

Responsibility for the effective absorption of the heat liberated by the combustion of the fuel used and the boiler performance will lie entirely with the manufacturer of the boiler and other heat absorbing apparatus.

After considerable discussion the committee was instructed to make further investigation before definite action is taken.

The old officers were re-elected. They are: Presi-

dent, George W. Bach, Union Iron Works, Erie, Pa.; vice-president, A. R. Goldie, Babcock Wilcox, Goldie-McCulloch Co., Galt, Ont.; secretary and treasurer, A. C. Baker, 801 Rockefeller Building, Cleveland.

Reclaiming of Materials to Be Discussed at Railroad Convention

More intensive work in the reclaiming of discarded materials will be one of the subjects taken up at the seventh annual convention of the purchases and stores division of the American Railway Association, which will be held in Atlantic City June 9, 10 and 11. Further steps to bring about, in the interest of further economies in operation, the standardization and simplification of stocks of materials used by the railroads will also be considered, as well as uniform methods pertaining to purchases of equipment and large material contracts.

Among the speakers at the convention will be R. H. Aishton, president of the American Railway Association; W. G. Besler, president of the Central Railroad of New Jersey; Elisha Lee, vice-president in charge of operation of the Pennsylvania Railroad; E. D. Toye, general storekeeper of the Canadian National Railways; U. K. Hall, general supervisor of stores for the Union Pacific System and J. W. Gerber, general storekeeper for the Southern Railway. The headquarters of the convention will be at the Haddon-Hall Hotel. C. D. Young, stores manager for the Pennsylvania Railroad, Philadelphia, will preside.

High Cost of Building

Building construction costs rose during May to the highest position they have reached since July, 1925, according to the Associated General Contractors of America. The increase, coming despite the fact that prices of construction materials dropped appreciably during the month, reflected wage advances. Wages in the construction industry last month reached the highest average they have held since 1920, an increase of 2 points, placing them at an index number of 228, based on the 1913 figure at 100.

Japan Investigates Dumping and India Protection

WASHINGTON, June 8.—Iron and steel are listed among products which will receive the attention of an Anti-dumping Investigation Commission which has been established by the Japanese Diet, according to a report received by the Department of Commerce from Acting Commercial Attaché A. B. Calder, Tokio.

Coming on the heels of this report is another, received by the Department from Trade Commissioner Charles B. Spofford, Calcutta, stating that the Government of India has notified the Indian Tariff Board to proceed with an inquiry to determine whether it is necessary to continue protection to articles benefited by the steel protection act, which expires on March 31, 1927. The inquiry also will be directed toward learning whether such protection should be increased or diminished and whether the form of protection should be given by protective duties or bounties.

Errata

In the report of the proceedings of the American Iron and Steel Institute in THE IRON AGE of May 27, page 1493, James L. Hyland, superintendent of open-hearth furnaces Illinois Steel Co., Gary, Ind., was misquoted in his discussion of S. J. Cort's paper. The statement rendered "This removes the handicap of adding raw materials in the ladle" should have read "This removes the handicap of adding raw materials to the heat after it has melted." The statement, "The radiation from a furnace is about 60 per cent of the heat input" should have read "The radiation from a 60-ton furnace is about 25 per cent of the heat input."

FABRICATED STEEL

Week's Awards Close to 37,000 Tons, With 27,000 in Pending Projects

Structural steel work is still running in heavy tonnage, the total of the week's awards being about 37,000 tons, while new projects up for bids total 27,000 tons. Among the more important awards was 4500 tons for a New York office building, 3350 tons for a Philadelphia municipal building and 2400 tons for a New York apartment building. New York subway work being bid on this week will take 3000 tons. Awards follow:

NEW YORK, 8729 tons: The Structural Steel Board of Trade, New York, reports a total of 8729 tons taken by members in the following jobs: Office building at 36 East Forty-ninth Street, also one at 695 Fifth Avenue, and a warehouse at Perth Amboy, N. J., to Harris Structural Steel Co.; loft building at Seventh Avenue and Twenty-eighth Street, power house at Delawanna, N. J., residence at Locust Valley, L. I., and Overlook Hospital at Summit, N. J., to McClintic-Marshall Co.; office building at 112 East Thirty-second Street, to Taylor-Fichter Steel Construction Co.; telephone building at 183 Jefferson Street, Perth Amboy, N. J., to Elditz & Ross; indoor tennis court at Woodbury, L. I., to National Bridge Works.

NEW YORK, 4500 tons, office building at 50 Broadway, to Levering & Garrigues Co.

NEW YORK, 250 tons, office building at 1 East Fifty-third Street, to A. E. Norton, Inc.

NEW YORK, 700 tons, loft building on West Thirty-fifth Street, to A. E. Norton, Inc.

NEW YORK, 2400 tons, apartment building at 666 West End Avenue, to Paterson Bridge Co.

NEW YORK, 660 tons, loft building at 247 West Thirtieth Street, to Paterson Bridge Co.

NEW YORK, 600 tons, Chemistry Building at New York University, to Hinkle Iron Works.

BROOKLYN, 250 tons, bank building on Myrtle Avenue, to A. E. Norton, Inc.

DOBBS FERRY, N. Y., 125 tons, New York Central bridge, to Jones & Laughlin Steel Corporation.

BUFFALO, 700 tons, Mercy Hospital, to Buffalo Structural Steel Co.

ROCHESTER, N. Y., 250 tons, Nelsner Building, to Genesee Bridge Co.

BATH, ME., 8200 tons instead of 7600 tons as reported a week ago, bridge awarded to McClintic-Marshall Co.

NEW BRITAIN, CONN., 400 tons, Commercial Trust Co., to Lehigh Structural Steel Co.

HARTFORD, CONN., 200 tons, Harvey Lewis Building, to Berlin Construction Co.

MIDDLETOWN, CONN., 150 tons, Stuecks Building, to Berlin Construction Co.

SAYLESVILLE, R. I., 150 tons, Lorain Mfg. Co., finishing building, to Jones & Laughlin Steel Corporation.

READING RAILROAD, 300 tons, bridges, to Phoenix Bridge Co.

PENNSYLVANIA RAILROAD, 300 tons, bridges, to American Bridge Co.

PHILADELPHIA, 400 tons, bus barns for Philadelphia Rapid Transit Co., to Belmont Iron Works.

PHILADELPHIA, 275 tons, stores at Sixteenth and Market Streets, to Belmont Iron Works.

PHILADELPHIA, 3350 tons, City Hall Annex, to American Bridge Co.

MONROETON, PA., 180 tons, bridge for Susquehanna & New York Railroad, to Phoenix Bridge Co.

LATROBE, PA., 200 tons, Citizens National Bank, to Jones & Laughlin Steel Corporation.

PARKERSBURG, W. Va., 125 tons, Parkersburg Rig & Reel Co., shop addition, to Jones & Laughlin Steel Corporation.

TOLEDO, OHIO, 850 tons, building for Security Savings & Trust Co., to American Bridge Co.

MANSFIELD, OHIO, 1200 tons, Westinghouse Electric & Mfg. Co., warehouse and office building, to American Bridge Co.

CANTON, OHIO, 225 tons, Canton Marcus Theater Corporation, theater, to American Bridge Co.

JOLIET, ILL., 200 tons, plate girder spans, for the Chicago, Rock Island & Pacific, to American Bridge Co.

CHICAGO, 1725 tons, Chatelaine Tower Hotel, to Hansell-Elcock Co., Chicago.

CHICAGO, 450 tons, elevated platform extensions, Chicago Rapid Transit Co., to Hansell-Elcock Co.

CHICAGO, 200 tons, Second Northwestern State Bank Building, to Holmes-Pyott Co., Chicago.

CHICAGO & NORTH WESTERN RAILROAD, 2200 tons, bridges, to American Bridge Co.

IOWA CITY, IOWA, 700 tons, hospital for the University of Iowa, to Rochester Bridge Co., Rochester, Ind.

DES MOINES, IOWA, 200 tons, field house for Drake University, to American Bridge Co.

DES MOINES, IOWA, 150 tons, Plymouth Congregational Church, to Pittsburgh-Des Moines Steel Co.

KANSAS CITY, MO., 800 tons, Loew's State Theater, to J. Goldberg, Kansas City.

DALLAS, TEX., 1000 tons, Dallas National Bank Building, to Pennsylvania Car Co., Beaumont, Tex.

DALLAS, 700 tons, car house for the Phoenix Utilities Co., to Mosher Mfg. Co., Dallas.

PORTLAND, ORE., 425 tons, civic stadium, to Poole & McGonigle, Portland.

PORTLAND, 182 tons, two bridges for Oregon Highway Commission, to unnamed local fabricator.

SELBY, CAL., 260 tons, American Smelting & Refining Co., to Minneapolis Steel & Machinery Co.

OAKDALE, CAL., 135 tons, distributing station at Melones Dam for Pacific Gas & Electric Co., to California Steel Co., San Francisco.

GRASS VALLEY, CAL., 900 tons, pipe line and syphons for Nevada County Irrigation District, to Western Pipe & Steel Co., San Francisco.

LA MESA, CAL., 800 tons, pipe line for Lemon Grove & Spring Valley Irrigation District, to Los Angeles Mfg. Co.

ROSEVILLE, CAL., 300 tons, pipe line for Roseville Water Co., to Western Pipe & Steel Co.

MOUNT SHASTA, CAL., 325 tons, drum gates for Pitt River plant No. 4, Pacific Gas & Electric Co., to Moore Dry Dock Co., Oakland, Cal.

Structural Projects Pending

Inquiries for fabricated steel work include the following:

SOMERVILLE, MASS., 560 tons, garage, Boston Elevated Railway; bids June 7.

WILLIMANSETT, MASS., 165 tons, manufacturing plant, B. F. Perkins Co.; bids being taken.

COHOES, N. Y., 2000 tons, bridge over Hudson River for Delaware & Hudson Railroad; bids rejected and new bids will be taken in August.

POUGHKEEPSIE, N. Y., 500 tons, dormitory for Vassar College.

NEW YORK, 3000 tons, subway route 8, section 6 E-2, Borough of Queens; bids close June 11.

NEW YORK, 500 tons, theater on West Forty-fifth Street.

CAMDEN, N. J., 135 tons, State highway bridge.

PHILADELPHIA, 120 tons, filtration plant.

PENNSYLVANIA RAILROAD, 3900 tons, bridges.

SOUTHERN RAILWAY, 4300 tons, miscellaneous bridge work.

JACKSONVILLE, FLA., 700 tons, office building.

NEW ORLEANS, 700 tons, cement manufacturing plant.

DETROIT, 250 tons, office and warehouse for Westinghouse Electric & Mfg. Co.

OHIO, 7500 tons, two Ohio River highway bridges at Gallopis and at Weirton.

CLEVELAND, 500 tons, for Auditorium Hotel.

TORONTO, OHIO, 600 tons, power house for the Ohio River Edison Co.

COLUMBUS, OHIO, 240 tons, City Hall, general contract to Boyejohn & Barr, Columbus.

ST. LOUIS, tonnage unknown, 5 steel pile driver hulls; bids received until June 23 by United States Engineer's Office, 428 Customhouse.

SANDPOINT, IDAHO, 506 tons, bridge over the Pend-d'Oreille River near Newport, Wash.; bids June 12, Commissioner Public Works, State of Idaho at Sandpoint.

SAN FRANCISCO, 400 tons, apartment building at Chestnut and Larkin Streets.

OAKLAND, CAL., 205 tons, Children's Hospital; Pacific Coast Engineering Co. low bidder.

HONOLULU, T. H., 175 tons, Y. M. C. A. building.

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Business Prospect Still Good

THERE has been of late an improvement of sentiment in business and this has been reflected in a stronger stock market. The general course of events during the first half of this year has been quite in accordance with forecasts. There was a halt in activity about the beginning of the year and then a mild recession, accompanied by a purging of the securities market that was inspired by the need for correcting overspeculation and that only.

At no time has there been any considerable check to consumption. There have been no reductions of wages and none but trifling slackenings of employment. The manufacture of goods and the transportation of them have both continued large. Our national economy has simply been in the process of digesting a slightly excessive production in 1925 of some kinds of consumers' goods.

For example, the radio manufacturers made too many sets. The tire manufacturers made too many tires. The battery makers, too many batteries. The desirability of reducing inventories led naturally to curtailment of buying of rubber, lead, zinc oxide, etc. The consumptive ability of the people, however, was not only unimpaired, but also was probably increasing all along, as is well reflected by the phenomenal increase in the consumption of gasoline. The last is one of the best indices of the consumptive ability of our people as a whole. Similarly is the stock of the American Telephone & Telegraph Co. a good index of the investment ability. The rise in that stock, following the announcement of a new issue of it, was a strong influence in reviving confidence among business managers, who recently were beginning to be fearful.

We have our unsatisfactory situations. The corn planters, the bituminous coal miners, the producers of textiles in New England, are all unhappy. There is no specific, legislative or otherwise, for the cure of these ills. Natural law is bringing about their correction, but the process is painful and slow. Fortunately, such adversities affect but a relatively small proportion of our workers. The essential thing to remember is that ours is a country of immense industry and immense population, and that the population is growing all the time.

Over 45,000,000 Tons

FOR the first time in the history of the steel industry production of steel ingots has exceeded 45,000,000 tons in a period of 12 consecutive months. The total for the 12 months from June 1, 1925, to May 31, 1926, was 45,472,002 gross tons. This exceeds by almost 500,000 tons the previous high record, which was 44,981,637 tons for the 12 months ended April 30, 1926. Only one other such period has exceeded 44,500,000 tons, and that was the 12 months ended Feb. 28, 1919, for which the total was 44,513,413 tons. The great jump from the 12 months ended April 30 to the 12 months ended May 31 was due to the fact that May this year showed a gain over May last year of 490,365 tons.

If steel castings in the 12-month period just ended reached 1,500,000 tons, then we have a total of approximately 47,000,000 tons of steel. This approaches closely to an average of 4,000,000 tons per month.

Shop Vacations with Pay

THAT paid vacations to unsalaried employees have a favorable effect on the morale and stability of the labor force is the deduction made by the Bureau of Labor Statistics of the United States Department of Labor, following a survey which compares the prevailing popularity of the plan with its status 10 years ago. Its adoption by an industry is a serious matter. The cost is heavy, and easily measured by the payroll of men and women who work by the hour or piece, plus the influence on overhead. Against this expense are charged certain expected results, impossible to estimate in dollars, which come from better health, reduction in labor turnover, loyalty, and other factors which, some owners believe, have a cumulative effect offsetting the direct money cost.

Owners who have adopted the plan have not acted hastily. They have given the subject much thought. Most of them who have tried it maintain that they are not sorry. A great number of manufacturers have rejected the idea as not applicable to their own shop conditions.

The Bureau of Labor made a survey a decade ago and found that of 389 establishments which reported on the subject only 16 gave vacations to the larger part of their unsalaried workers. A similar study made this year "indicates the realization of a growing number of employers that the cost of giving vacations to the rank and file of the employees can be met successfully." Of 250 firms reporting on the subject, including 43 manufacturing establishments and public utilities, with about 137,750 employees, 95 give vacations to all employees who have a record of service with the firm varying in the different establishments from a few months to not more than two years.

Ford's Staybolt Innovation

DESIGNERS of boilers are conservative men, habitually. Manufacturers also like to follow beaten paths. Experience has taught them that certain materials and methods are satisfactory; these practices have also been approved by insurance and casualty companies. One can hardly expect much experimentation, therefore, on equipment which is such an essential link in a power system and where failure would endanger or destroy so much life and property.

Except when driven to it by the demands of super-power, steam boiler design consequently has become conventionalized. Speaking in general terms, this is true of locomotive boilers also, and for the same reasons, namely, limitations of dimension and of regulatory bodies. This does not mean, however, that the best materials for any portion of the machine have yet been found.

As a proof of this statement the different practices of American and British railroads may be cited. Both use high quality low-carbon steel for the shells. The British, however, use copper for the fireboxes, brass for the tubes, and copper or bronze for the staybolts. Americans use mild steel for the fireboxes and wrought iron for tubes and staybolts. Everywhere it is recognized that, although mild steel of good quality is stronger and has higher ductility than wrought iron, it is also more liable to develop cracks if subjected to improper treatment, such as would be given by a series of careless flanging heats.

All the above considerations have been of weight in the selection of materials for staybolts. These, it may be recalled, are closely spaced tie rods between flat surfaces (such as the sides of the firebox) to prevent them from bulging from steam pressure. Ordinarily they are threaded on each end; are screwed into closely matched holes, and the protruding ends peened over or expanded for tightness. Staybolts are subjected to heavy and quite variable stresses. One end may be bathed by flames, the other covered with insulation and lagging. The firebox sheet itself is subjected to far greater temperature variations than the shell, with corresponding changes in size and shape—all of which must be controlled by the staybolts.

Thus staybolt material, be it of copper, steel or wrought iron, has been always soft but reliable metal with a reputation for enduring the most severe usage and wide variation in temperature. It is probably the last place where one would expect

to put alloy steel. Yet, after an engineering analysis of the problem, this is exactly what has been done.

Staybolts fractured in service have that characteristic appearance known as "crystallized metal" to the mechanic, or "fatigue failure" to the metallurgist. A few hundred thousand repetitions of severe overstrain, tension, bending, or a combination of both, and the bolt breaks square off, with no appearance of ductility, near the threaded end.

So far, so good. If staybolts break from fatigue, why not make them of metal with high fatigue limit? While information on such matters is comparatively meager, Professor Moore of the University of Illinois believes that the fatigue limit of steel is roughly proportional to the ultimate strength. It should follow, then, that the best staybolt material would be the strongest steel available. Yet for years we have insisted on wrought iron.

Perhaps the accuracy of this reasoning would not have been tested for some time had not Henry Ford instructed his men to use alloy steels wherever possible in reconditioning the locomotives on his newly purchased Detroit, Toledo & Ironton Railroad. Ford metallurgists had much experience with a 0.10 to 0.14 per cent carbon steel containing 0.25 to 0.35 per cent chromium, and knew it had certain very important properties to fit it for staybolt use. It machined readily and could be heat-treated to obtain twice the ultimate strength and elastic limit of wrought iron, with equal elongation and better reduction of area. After screwing home, the ends would be cut off with an oxy-acetylene flame. The carbon and alloy content is low enough so that this cutting flame hardens the steel only slightly, not enough to interfere with the ability to peen the ends.

These properties seemed to fit the expected requirements so well that all staybolts on the Ford railroad have been made of heat-treated alloy steel. Experience of three or four years has demonstrated the truth of the theory. Staybolts do not bother the Detroit, Toledo & Ironton very much. In this manner a logical extension has been made to the British Board of Trade rule that wrought iron stays may be designed for 7000 pounds per square inch, whereas steel stays may be figured at 9000 pounds.

Thus we have a convincing verification from actual service of the purely empirical hypothesis drawn from laboratory tests, that the fatigue strength, determined by long-time expensive tests, is proportional to the ultimate, determined by a simple tensile test.

Stability of Steel Prices

SEVERAL times it has been pointed out in these columns that finished steel prices move in a relatively narrow range. A recent weekly letter of the Harvard Economic Service gives further evidence of this stabilization.

Twelve commodities or groups are there tabulated, of which pig iron, finished steel and scrap represent the iron and steel field. Other fields covered are textile, leather and paper. The table spans 16 months—all of 1925 and the first four months of 1926. Over that period the maximum price of finished steel (THE IRON AGE composite) is 5.4 per cent above the minimum. Only one other product shows so close a range of prices as does steel—

wood pulp giving a maximum of but 5.1 per cent above the minimum. The greatest divergence is in wool, 52.6 per cent. Cotton shows 34.1 per cent difference; hides and skins, 27.5 per cent; scrap, 24.4 per cent; pig iron, 18.7 per cent; cotton goods, 18.4 per cent; silk, 16.8 per cent; wool goods, 11.5 per cent; leather, 9 per cent; and paper, 5.6 per cent.

Summing all twelve items, we find that the average divergence of maximum from minimum is slightly more than 17 per cent. This is more than three times the divergence of finished steel.

Another method of analysis would take account of the period of time elapsed between the maximum figure and the minimum. On this basis the percentage difference per month in finished steel is the lowest of all items, at 0.41. Scrap is the highest of all, at 6.1 per cent per month; pig iron is 3.75 per cent and wool 3.5 per cent. All twelve items on this basis work out at 1.56 per cent, or nearly four times the fluctuating speed of steel prices.

The Drop in Merchant Pig Iron

RECENT months have illustrated with particular force the poor position of the merchant blast furnace industry. Now, if ever, the merchant blast furnaces should be active, when the demand for steel has made a new high record. To a slight extent the merchant furnaces perform a function of furnishing reserve capacity, and it is when production of steel is at particularly high rates that the merchant furnaces should have their best chance. That they have done poorly of late is well known. How poorly, can be brought out readily by some simple comparisons with the past.

The average of the daily rates of pig iron production as shown by the blast furnace reports of THE IRON AGE for the past six months, December to May inclusive, was 84,721 tons by the steel works furnaces and 24,375 tons by the merchant furnaces, there being included in merchant furnace output the pig iron made for the market by steel companies. The proportion of merchant iron to steel works iron was 28.7 per cent.

For comparison of these figures with past experiences, periods of six months of particularly high merchant furnace production may be taken. Such

a selection falls upon the six months, December, 1912, to May, 1913, inclusive, when the average daily rate of merchant furnace production was 27,036 tons, which was 42.4 per cent of the steel works production of pig iron in the same period.

For an earlier period, there was the six months through April, 1910, when the merchant furnaces averaged 27,785 tons daily, this being 49.0 per cent of the rate of the steel works furnaces in the same period.

Thus we have the comparison of a merchant furnace relationship of 49.0 per cent 16 years ago, 42.4 per cent 13 years ago, and 28.7 per cent in the past six months.

The decrease in the proportion is remarkable. It was produced chiefly by increased production of steel works furnaces, but not wholly. The actual tonnage of the merchant furnaces decreased. In a six-month period 16 years ago they produced at 27,785 tons daily, while in the past six months the rate was only 24,375 tons; and nearly 20 per cent of that tonnage was produced by steel interests for sale, so that the merchant furnaces did not have the full benefit even of the reduced tonnage.

The comparison of pig iron production by the respective parties is one comparison, but there is a more striking divergence between the pig iron production of merchant furnaces and the production of steel ingots, for the reason that the production of steel ingots has increased in greater ratio than the production of pig iron by the steel works. In the six months through May, 1910, steel ingots were being produced at a rate of about 28,400,000 tons a year, while the steel works furnaces were producing pig iron at 56,707 tons daily. In the last six months the rate of steel ingot production has been about 49,000,000 tons a year, while the steel works produced pig iron at 84,721 tons daily. The steel works increased their ingot production by 73 per cent, but their pig iron production by a trifle less than 50 per cent.

By the combination of these circumstances this results: that while 16 years ago there was being produced 2.8 times as much steel ingots as merchant pig iron, in the past six months there has been produced 5.5 times as much steel ingots as merchant pig iron. The merchant furnaces have just half as much business, proportionate to steel mill activity, as they had 16 years ago.

Fifth National Exposition of Power and Mechanical Engineering

Preliminary plans for the Fifth National Exposition of Power and Mechanical Engineering indicate that the coming event, to be held in the Grand Central Palace, New York, Dec. 6-11, will be even larger and more inclusive than the Fourth exposition.

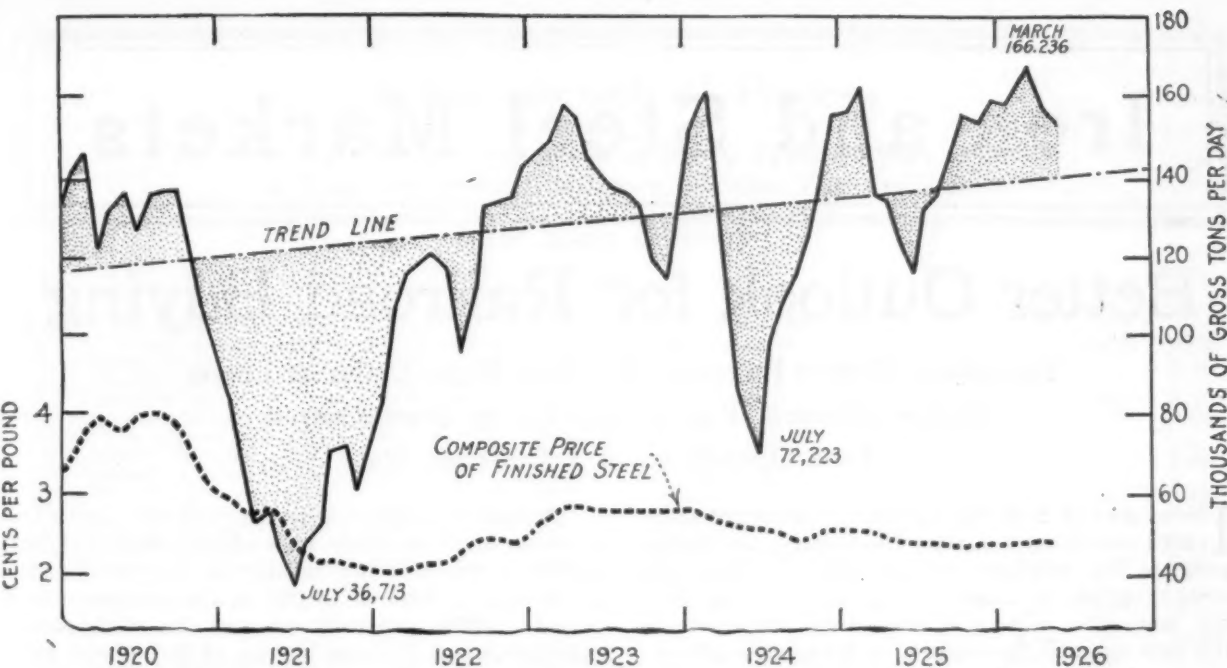
Three floors of the Palace have been sold to exhibitors and a portion of the fourth floor. Contracts have been signed with 332 manufacturers of all types of mechanical and power plant equipment. The manner in which this annual event is serving all of the mechanical industries is well illustrated by the diversity of the exhibits at the 1925 show. About 140 exhibitors showed products of importance to the heating and ventilating field and 75 showed machinery which could be used to good advantage in machine shops. The total number of exhibitors was over 400 and, while a large number devoted space to power generating

equipment, the entire show gave a great deal of exceedingly valuable new information of general interest to all types of industry.

To Indicate Engineering Advance

An important innovation in the conduct of the coming exposition will be the addition of several exhibits essentially educational in character, which point out the tremendous advances that are being made in mechanical design and construction.

The exhibition managers are assisted in the conduct of the exposition by an advisory board made up of representatives of technical societies in the mechanical field and also representatives of large users of mechanical equipment who are interested in maintaining the high standing of the exposition. I. E. Moulthrop, Edison Electric Illuminating Co. of Boston, is chairman of this board. The managers of the exposition are Charles F. Roth and Fred W. Payne of the International Exposition Co., Grand Central Palace, New York.



May Production of Steel Ingots Shows That the Daily Output was About 4.35 Per Cent Less Than That of April

May Steel Ingot Output Declines

Daily Rate 6869 Tons, or 4 1/3 Per Cent Less Than April—Output to June 1 about 7 Per Cent Over Last Year

THE decline in steel ingot production since March was continued in May. At 151,744 tons per day, for the 26 working days, the May output was 6869 tons per day less than the April rate, a decrease of 4 1/3 per cent. The April decrease from March was 7623 tons per day, or 4.6 per cent. A year ago the May decrease from April was 4951 tons, or 3.6 per cent.

For the first five months the daily rate this year has averaged 10,320 tons larger than for the same period a year ago, but a year ago, during the five months, the rate of operation lay between 74 and 90 per cent of capacity, while this year the range was narrowed down to 84 to 92 per cent. The twelve months ended with May show a production of no less than 45,472,000 gross tons, a twelve months' record.

The statistics of the American Iron and Steel Institute show that the May production for the companies

which made 94.50 per cent of the country's total in 1925 was 3,728,343 tons. Assuming that the 5.50 per cent not reporting produced at the same rate, a total May output is indicated at 3,945,336 tons, from which the daily rate was calculated.

The table gives the reported production by months of the different kinds of steel, together with the estimated daily rate for all companies.

Steel Companies Earnings Analyzed

On page 1560 of our issue for May 27 appears an analysis of the 1925 earnings of 42 steel companies, representing more than 87 per cent of the ingot capacity of the United States. It was not noted in the table on that page that four of the companies showed deficits rather than net earnings, these having been the Lukens Steel Co., Penn Seaboard Steel Corporation, Rogers-Brown Iron Co., and Wickwire Spencer Steel Corporation.

At the same time, the general accuracy of the figures shown on that page may be emphasized. In particular, the stockholders' investment upon which the returns are figured is correctly given. The 5.9 per cent return took the deficits into account. Bond issues should have no place in such a computation where the net earnings are tabulated after bond interest has been paid. Our figures considered the bonds as in the nature of borrowed money, rather than capital investment, and the bond interest was taken out of earnings before our earnings column was made.

Industrial coal consumption in April is estimated at 39,048,000 net tons, by the National Association of Purchasing Agents. This is a sharp drop from the 46,313,000 tons of March. There was also a heavy decrease in industrial stocks of coal, which dropped from 49,150,000 tons April 1 to 36,876,000 tons on May 1. The supplies on hand May 1 were good for 20 days in steel plants, 48 days in public utility plants and 24 days for the railroads.

Production of Steel Ingots					
(Gross Tons)					
Reported by Companies Which Made 94.50 Per Cent of the Ingot Production in 1925			Calculated Monthly Production All Companies	Approximate Daily Production All Companies	
Months 1926	Open-Hearth	Bessemer	Other	All Companies	All Companies
Jan.	3,326,846	581,683	13,664	4,150,469	159,633
Feb.	3,023,829	556,031	12,818	3,801,776	158,407
March	3,590,791	635,680	15,031	4,488,362	166,236
April	3,282,435	601,037	13,652	4,123,941	158,613
May	3,201,330	516,676	10,437	3,945,336	151,744
5 mos.	16,425,231	2,891,107	65,602	20,509,884	158,991
1925					
Jan.	3,263,256	689,996	11,960	4,193,281	155,307
Feb.	2,933,225	602,042	12,998	3,752,352	156,348
March	3,337,721	614,860	13,633	4,194,340	161,321
April	2,858,866	516,715	14,182	3,583,676	137,834
May	2,755,561	497,708	13,790	3,454,971	132,883
5 mos.	15,148,629	2,920,321	66,563	19,178,620	148,671
June	2,540,729	476,945	12,490	3,204,451	123,248
July	2,446,068	457,095	13,547	3,084,472	118,634
Aug.	2,698,285	523,734	12,914	3,420,998	131,577
Sept.	2,738,673	547,121	13,977	3,489,565	134,214
Oct.	3,077,114	584,567	15,624	3,888,814	144,030
Nov.	3,092,194	581,347	17,085	3,902,900	156,116
Dec.	3,169,796	569,304	15,843	3,970,918	152,728
Total	34,911,488	6,660,434	168,043	44,140,738	141,932

Iron and Steel Markets

Better Outlook for Railroad Buying

Equipment Orders Increase—Pig Iron More Active at Lower Prices—Record Twelve Months in Steel Output
—June Operations at a Lessened Rate

IN volume of new buying, in the more confident attitude of both buyers and sellers, and in the promise for business in the third quarter, the steel trade shows improvement. At the same time the moderate reduction scheduled for June, in the rate of mill operations, is going into effect.

Activity in pig iron in the Middle West on a greater scale than in several months, and with further weakening of prices, has featured the week in that end of the market, while railroad equipment buying and increased inquiry for railroad material have been the chief developments in finished steel.

The movement for a 2c. bar price at Pittsburgh, while not yet put to a conclusive test, has been seconded in the Chicago district by the announcement of a \$2 per ton advance in plates and shapes. The bar mills have had a considerable increase in specifications on their 1.90c. business, and in structural material a similar effect is looked for.

The advance in Chicago prices on the three major products may increase the westward movement of Pittsburgh material.

May brought rather less than the expected decline in steel ingot output. At 151,744 tons the daily rate was 4.3 per cent less than that of April. It represented an 84 per cent operation for the month, against 88 per cent in April and 92.5 per cent in March, based on 56,000,000 tons a year as the country's theoretical capacity.

For June an average rate of not far from 75 per cent is indicated for the industry. Independent steel companies as a whole are close to that rate now, while the Steel Corporation is running at 85 per cent.

In the twelve months ending with May the country made a new record in steel ingot production at 45,472,000 tons. The 12 months ended April 30 stood next, with 44,981,000 tons. Last month's output exceeded that of May, 1925, by nearly 500,000 tons.

Railroad buying takes on new importance with the placing of 3500 freight cars last week, as against 1500 for all the month of May. The Baltimore & Ohio and Central of New Jersey have each placed 1000 cars and the Lackawanna 900. The Illinois Central ordered 50 locomotives and the Santa Fe 25. The Great Northern is inquiring for 2000 car underframes.

The Norfolk & Western inquiry for rails for the second half is variously put at 55,000 tons and at a somewhat less amount.

Freight cars ordered by the railroads, exclusive of those built in their own shops, were roughly 32,000 in the first five months of this year, compared with a total of 30,663 in the corresponding period of 1925. Generally speaking, the steel trade's expectations of railroad buying in the second half of the year are rising.

Lake shipyards have an inquiry from the Wabash Railroad for three car ferries requiring 7500 tons of steel. In addition three lake steamers are under negotiation.

An office building in New York requiring 4500 tons of steel and a Philadelphia municipal building taking 3350 tons, are among the week's structural awards of about 37,000 tons. Included in 27,000 tons of new work up for bids is 3000 tons for New York subway construction. In the Central West considerable highway and railroad bridge work is pending.

Steel companies look for better inquiry from automobile companies in the next month, as new models get into production.

The sheet market has not improved, either in price or in volume.

Though the first six months of 1925 set a new record in tin plate shipments, it will be exceeded this year from present indications.

Pig iron has grown more active in the markets reached by lower Lake Erie blast furnaces, and some of the latter have pushed for business at greater distances than their usual radius of operations. Competition in Michigan, Ohio and even south of the Ohio River, has brought a decline of 50c. in the past week, while Alabama furnaces have gone \$1 a ton below their second quarter price. At Cleveland 50,000 tons was closed in the week and Cincinnati selling offices have had an active week. Some of the northern Ohio business was for fourth as well as for third quarter.

There are signs that the low point has been struck in heavy melting steel in the Pittsburgh district. Dealers who sold recently at \$15.50 are finding no large supply at that price.

Two more lots of rails, about 5700 tons, have been ordered from American mills by Japan.

At \$19.79, THE IRON AGE pig iron composite price is at the lowest point in nearly eight months. The drop from \$20.04 last week puts it \$1.75 below its level at the turn of the year, when it held \$21.54 for 12 consecutive weeks.

The composite price for finished steel remains at 2.410c. per lb. Not in a year has it been 2 per cent above or below that figure.

A Comparison of Prices

Advances Over the Previous Week in Heavy Type, Declines in Italics
At Date, One Week, One Month, and One Year Previous
For Early Delivery

Pig Iron, Per Gross Ton:					Sheets, Nails and Wire,				
	June 8, 1926	June 1, 1926	May 11, 1926	June 9, 1925		June 8, 1926	June 1, 1926	May 11, 1926	June 9, 1925
No. 2X, Philadelphia...	\$22.76	\$22.76	\$22.76	\$21.26	Per Lb. to Large Buyers:	Cents	Cents	Cents	Cents
No. 2, Valley Furnace...	18.00	18.00	19.00	18.00	Sheets, black, No. 28, P'gh	3.10	3.10	3.15	3.20
No. 2, Southern, Cin'ti...	24.69	25.69	25.69	24.05	Sheets, black, No. 28, Chi-				
No. 2, Birmingham...	21.00	22.00	22.00	20.00	cago dist. mill.	3.25	3.30	3.35	3.30
No. 2 foundry, Chicago...	21.00	21.50	21.50	20.00	Sheets, galv., No. 28, P'gh	4.30	4.30	4.40	4.25
Basic, del'd, eastern Pa...	21.75	21.75	21.75	21.50	Sheets, galv., No. 28, Chi-				
Basic, Valley furnace...	18.00	18.00	18.50	18.00	cago dist. mill.	4.50	4.60	4.60	4.35
Valley Bessemer, del. P'gh.	20.76	20.76	21.26	20.76	Sheets, blue, 9 & 10, P'gh	2.35	2.35	2.40	2.30
Malleable, Chicago...	21.00	21.50	21.50	20.00	Sheets, blue, 9 & 10, Chi-				
Malleable, Valley	18.00	18.50	19.00	18.50	cago dist. mill.	2.40	2.60	2.60	2.40
Gray forge, Pittsburgh...	19.26	19.26	20.26	19.26	Wire nails, Pittsburgh...	2.65	2.65	2.65	2.70
L. S. charcoal, Chicago...	29.04	29.04	29.04	29.04	Wire nails, Chicago dist.				
Ferromanganese, furnace...	88.00	88.00	88.00	115.00	mill	2.70	2.70	2.70	2.75
					Plain wire, Pittsburgh...	2.50	2.50	2.50	2.50
					Plain wire, Chicago dist.				
					mill	2.55	2.55	2.55	2.60
					Barbed wire, galv., P'gh...	3.35	3.35	3.35	3.45
					Barbed wire, galv., Chi-				
					cago dist. mill.	3.40	3.40	3.40	3.55
					Tin plate, 100 lb. box, P'gh	\$5.50	\$5.50	\$5.50	\$5.50
Rails, Billets, etc., Per Gross Ton:					Old Material, Per Gross Ton:				
O.-h. rails, heavy, at mill.	\$43.00	\$43.00	\$43.00	\$43.00	Carwheels, Chicago	\$15.00	\$15.00	\$15.50	\$17.75
Light rails at mill.	34.00	34.00	34.00	38.08	Carwheels, Philadelphia...	17.00	17.00	17.50	17.00
Bess. billets, Pittsburgh...	35.00	35.00	35.00	35.00	Heavy steel scrap, P'gh...	15.50	15.00	15.75	17.00
O.-h. billets, Pittsburgh...	35.00	35.00	35.00	35.00	Heavy steel scrap, Phila...	15.00	15.00	15.50	15.00
O.-h. sheet bars, P'gh...	36.00	36.00	36.00	35.00	Heavy steel scrap, Ch'go...	12.00	12.00	12.25	16.00
Forging billets, base, P'gh.	40.00	40.00	40.00	40.00	No. 1 cast, Pittsburgh...	16.00	16.00	16.50	17.00
O.-h. billets, Phila.	40.30	40.30	40.30	40.17	No. 1 cast, Philadelphia...	17.00	17.00	17.50	17.50
Wire rods, Pittsburgh...	45.00	45.00	45.00	46.00	No. 1 cast, Ch'go (net ton)	15.75	15.75	16.00	17.50
	Cents	Cents	Cents	Cents	No. 1 RR. wrot., Phila...	16.50	17.00	17.50	18.00
Skelp, gr. steel, P'gh, lb..	1.90	1.90	1.90	1.90	No. 1 RR. wrot. Ch'go (net)	11.00	10.50	11.00	15.25
Finished Iron and Steel,					Coke, Connellsville,				
Per Lb. to Large Buyers:	Cents	Cents	Cents	Cents	Per Net Ton at Oven:				
Iron bars, Philadelphia...	2.22	2.22	2.22	2.22	Furnace coke, prompt...	\$2.90	\$3.00	\$2.90	\$2.75
Iron bars, Chicago	2.00	2.00	2.00	2.00	Foundry coke, prompt...	4.00	4.00	4.00	3.75
Steel bars, Pittsburgh...	2.00	2.00	2.00	2.00					
Steel bars, Chicago	2.10	2.10	2.10	2.10	Metals,				
Steel bars, New York...	2.34	2.34	2.34	2.34	Per Lb. to Large Buyers:	Cents	Cents	Cents	Cents
Tank plates, Pittsburgh...	1.85	1.85	1.85	1.90	Lake copper, New York...	14.00	14.00	14.00	13.62 1/2
Tank plates, Chicago	2.10	2.10	2.10	2.20	Electrolytic copper, refinery	13.57 1/2	13.57 1/2	13.62 1/2	13.25
Tank plates, New York...	2.24	2.24	2.24	2.24	Zinc, St. Louis	7.05	6.95	6.75	7.00
Beams, Pittsburgh	1.90	1.90	1.90	2.00	Zinc, New York	7.40	7.30	7.10	7.35
Beams, Chicago	2.10	2.10	2.10	2.20	Lead, St. Louis	7.47 1/2	7.45	7.55	8.25
Beams, New York	2.24	2.24	2.24	2.34	Lead, New York	7.65	7.65	7.75	8.50
Steel hoops, Pittsburgh...	2.50	2.50	2.50	2.40	Tin (Straits), New York...	58.75	60.62 1/2	64.50	55.37 1/2
					Antimony (Asiatic), N. Y.	11.50	9.50	12.75	16.50

*The average switching charge for delivery to foundries in the Chicago district is 61c. per ton.
†Silicon, 1.75 to 2.25. ‡Silicon, 2.25 to 2.75.
On export business there are frequent variations from the above prices. Also, in domestic business, there is at times a range of prices on various products, as shown in our market reports on other pages.

Pittsburgh

Steel Output Better Than a Year Ago—
Scrap Market Stronger

PITTSBURGH, June 8.—Steel ingot production for the third consecutive week is at 70 per cent of capacity in this and nearby districts, and that rate is five points or more above the average at this time last year.
As a rule, buyers still are holding down purchases to their absolute necessities, but while orders invariably are for small amounts, they are coming with more frequency than recently and in all cases are tagged for quick shipment, which would indicate that little material is going into stock. Demand for oil and gas well pipe still is good, and the oil industry is expected to purchase considerable line pipe for laying during the remainder of the year. There is a belief that the automobile industry within the next 30 days will find a need for more steel, as the new models get into production. There is also a fairly cheerful feeling as to last half railroad steel requirements. With structural steel business holding up comparatively well and with the prospect that the agricultural implement industry will prepare for its season of heaviest production before long, it is not surprising to hear suggestions that the summer recession in business and plant activities will not be quite so sharp as a year ago and, since

consuming industries are not heavily stocked, that the fall recovery will start earlier than usual.
Pittsburgh mills have not followed the lead of those in Chicago in marking up prices of plates and shapes, and there is now a spread between the two districts, that lets Pittsburgh mills into the Chicago area with little freight absorption. The test of the higher steel bar prices is yet to come, because there seems to have been rather generous covering of the ordinary tonnage buyers before the advance was made. The sheet market is weak at a level of from \$4 to \$6 a ton below the prices ruling at the outset of the year. There is still some uncertainty as to prices on cold-rolled strips, but eliminating sheets and strips, it must be said that the market is giving a fairly good account of itself, in view of the necessity for intensive sales effort caused by the character of the demand.
If the scrap market is a barometer of the finished steel market, as some economists contend, the steel market is due for better times. After sliding down \$4 a ton, the scrap market in the past week has grown stronger on account of more active interest on the part of consumers. The real reason for the increase in interest, however, is probably found in the fact that at present prices scrap is regarded as cheap. A stronger coke and coal situation seems likely during the last half of the year as a result of the probable building of winter stocks as a precaution against any trouble that may develop through the ending of the so-called Jacksonville scale next April. Already considerable buy-

ing of coal for stock for delivery beginning later in the summer is noted, and at prices that yield much better returns than can be obtained for coke.

Pig Iron.—Interest in the steel-making grades of pig iron is as low as it has been at any time in months, and although consumers concede that at the present level of foundry iron \$18 for the base grade is cheap, they do not appear to be any more anxious for supplies than they were when the market was higher. Most foundries are carrying fairly large stocks of iron or are covered against their immediate needs by contracts, and, as business in castings is not particularly heavy, the price of pig iron is not a factor in encouraging purchases. It is hard to figure the market as likely to go materially below present levels, and money is cheap enough to encourage speculative buying. That there has been none of this probably is due to the fact that melters do not look for any immediate stiffening in the market, at least so long as production holds around its present average. Producers realize that a better balance between supply and demand is possible only through less output, and it may be safely predicted that within the next 60 days at least three merchant furnaces, and possibly four, will have been blown out. The largest individual transaction of the week was one of 800 tons of malleable iron taken by the Pittsburgh Plate Glass Co. at \$18, Valley furnace. Most producers quoted \$18.50 against this inquiry.

We quote Valley furnace, the freight rate for delivery to the Cleveland or Pittsburgh district being \$1.76 per gross ton:

Basic	\$18.00
Bessemer	19.00
Gray forge	17.50
No. 2 foundry	18.00
No. 3 foundry	17.50
Malleable	18.00
Low phosphorus, copper free....	27.50

Ferrolloys.—In the face of somewhat lighter steel works operations, specifications against contracts for ferromanganese still are being made steadily, and without urging on the part of producers. In most raw materials, the tendency of consumers is to order in keeping with real needs, but with ferromanganese the maintenance of a good-sized reserve is regarded as a safety measure. Third quarter and last half contracts for spiegeleisen are being written at the same prices as those for the first half of this year. Prices are given on page 1671.

Semi-Finished Steel.—The surprising feature of this market is its steadiness in the face of a moderate demand and, in the case of sheet bars, that the weakness of the sheet market has not yet been reflected. Sheet prices are \$4 to \$6 a ton lower than they were at the beginning of the year, while the price of sheet bars remains at \$36, Pittsburgh or Youngstown. It is a little unusual for the sheet makers who buy their steel to stand such a loss without calling on the sources of their supply of steel for help through price revisions. The test of sheet bar prices will come with the effort to line up third quarter tonnages. There are no large demands for wire rods, and an active market

in pipe does not show in the open market demand for skelp. Prices are given on page 1671.

Wire Products.—The movement of wire products into consumption is seasonally good and jobbers, having observed a policy of allowing the mills to carry the stocks, find it necessary to make more frequent demands upon the manufacturers. Business, however, is good only from the standpoint of the number of orders; it still lacks volume. The encouraging phase of the situation is that since there has not been the usual spring demand and stocks in second hands are light, some demand may be expected through the summer months, which usually are marked by a good movement of most items from jobbers' stocks but not much demand upon the mills. Prices are steady. Concessions would not create business, manufacturers believe, and keeping production in line with consumption is preferred to price cuts. Prices are given on page 1669.

Rails and Track Supplies.—Not much new business in standard-section rails or track accessories is developing for makers in this district, but specifications against old business are being made steadily and a fair operation of productive capacity is helped by a few supplementary orders. The Norfolk & Western Railway is mentioned as likely to be in the market shortly for a round tonnage of standard sections for last half delivery, and it is believed there will be more spike and tie plate business in the next few weeks covering the late summer and fall needs of the roads. Light rails are slow, but there is good observance of quotations. Prices are given on page 1669.

Tubular Goods.—Lap-weld pipe capacity is well occupied in this and nearby districts, but much butt-weld capacity is idle. That tells the story of pipe business; there is a really good demand for oil and gas well pipe and for line pipe, but the call for standard pipe is being met to a large extent from mill stocks. The general average of production is 85 per cent of capacity, reflecting the high rate of lap-weld furnace engagement. Although there is an equal number of butt and lap-weld furnaces in the country, the lap-weld furnaces account for approximately 70 per cent of the total production. Fairly good demand is noted for seamless tubes for locomotives and for mechanical tubing for automobiles, but the situation in welded tubes is not a happy one either as to prices or sales. Discounts are given on page 1669.

Sheets.—There is no improvement in the market either from a price or business angle. There is continued curtailment of production, and it is doubtful if as much as 60 per cent of the country's sheet-making capacity is in operation. But the anxiety of some of the producers for business impresses buyers with the possibility of still lower prices, and they are restricting purchases even more closely to actual needs than recently. Some very low prices are noted on black sheets, lower than 3c., base Pittsburgh, being reported, but it is said here that such prices usually apply on business in

THE IRON AGE Composite Prices

Finished Steel

June 8, 1926, 2.410c. Per Lb.

One week ago.....	2.410c.
One month ago.....	2.417c.
One year ago.....	2.446c.
10-year pre-war average.....	1.689c.

Based on prices of steel bars, beams, tank plates, plain wire, open-hearth rails, black pipe and black sheets. These products constitute 88 per cent of the United States output of finished steel.

High		Low	
1926	2.453c.	Jan. 5:	2.403c.
1925	2.560c.	Jan. 6:	2.396c.
1924	2.789c.	Jan. 15:	2.460c.
1923	2.824c.	April 24:	2.446c.
		May 18:	
		Aug. 18:	
		Oct. 14:	
		Jan. 2:	

Pig Iron

June 8, 1926, \$19.79 Per Gross Ton

One week ago.....	\$20.04
One month ago.....	20.29
One year ago.....	19.21
10-year pre-war average.....	15.72

Based on average of basic and foundry irons, the basic being Valley quotation, the foundry an average of Chicago, Philadelphia and Birmingham.

High		Low	
1926	\$21.54,	Jan. 5:	\$19.79,
1925	22.50,	Jan. 13:	18.96,
1924	22.88,	Feb. 26:	19.21,
1923	30.86,	March 20:	20.77,
		June 8:	
		July 7:	
		Nov. 3:	
		Nov. 20:	

Mill Prices of Finished Iron and Steel Products

Iron and Steel Bars

Soft Steel

	Base Per Lb.
F.o.b. Pittsburgh mills.....	2.00c. to 2.10c.
F.o.b. Chicago	2.10c. to 2.20c.
Del'd Philadelphia.....	2.32c.
Del'd New York.....	2.34c.
Del'd Cleveland.....	2.19c.
F.o.b. Birmingham.....	2.15c. to 2.25c.
C.i.f. Pacific ports.....	2.35c.
F.o.b. San Francisco mills.....	2.35c. to 2.40c.

Billet Steel Reinforcing

F.o.b. Pittsburgh mills.....	2.00c. to 2.10c.
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Rail Steel

F.o.b. mill	1.80c. to 1.90c.
F.o.b. Chicago	1.90c. to 2.00c.

Iron

Common iron, f.o.b. Chicago.....	2.00c.
Refined iron, f.o.b. P'gh mills.....	3.00c.
Common iron, del'd Philadelphia.....	2.22c.
Common iron, del'd New York.....	2.24c.

Tank Plates

	Base Per Lb.
F.o.b. Pittsburgh mill.....	1.85c. to 1.90c.
F.o.b. Chicago	2.10c. to 2.20c.
F.o.b. Birmingham	2.00c. to 2.10c.
Del'd Cleveland	2.09c. to 2.19c.
Del'd Philadelphia	2.17c. to 2.22c.
Del'd New York	2.19c. to 2.24c.
C.i.f. Pacific ports	2.25c. to 2.30c.

Structural Shapes

	Base Per Lb.
F.o.b. Pittsburgh mill.....	1.90c.
F.o.b. Chicago	2.10c. to 2.20c.
F.o.b. Birmingham	2.05c. to 2.15c.
Del'd Cleveland	2.09c. to 2.19c.
Del'd Philadelphia	2.12c. to 2.22c.
Del'd New York	2.14c. to 2.24c.
C.i.f. Pacific ports	2.30c. to 2.35c.

Hot-Rolled Flats (Hoops, Bands and Strips)

	Base Per Lb.
All gages, narrower than 6 in., P'gh.....	2.50c.
All gages, 6 in. and wider, P'gh.....	2.30c.
All gages, 6 in. and narrower, Chicago.....	2.60c.
All gages, wider than 6 in., Chicago.....	2.50c.

Cold-Finished Steel

	Base Per Lb.
Bars, f.o.b. Pittsburgh mills.....	2.50c.
Bars, f.o.b. Chicago	2.50c.
Bars, Cleveland	2.55c.
Shafting, ground, f.o.b. mill.....	2.70c. to 3.00c.
Strips, f.o.b. Pittsburgh mills.....	3.75c.
Strips, f.o.b. Cleveland mills.....	3.75c.
Strips, delivered Chicago	4.05c.
Strips, f.o.b. Worcester mills.....	4.05c.

*According to size.

Wire Products

(To jobbers in car lots f.o.b. Pittsburgh and Cleveland)

	Base Per Keg
Wire nails	\$2.65
Galv'd nails, 1-in. and longer.....	4.65
Galv'd nails, shorter than 1 in.....	4.90
Galvanized staples	3.35
Polished staples	3.10
Cement coated nails	2.65

Base Per 100 Lb.

Bright plain wire, No. 9 gage.....	\$2.50
Annealed fence wire	2.65
Spring wire	3.50
Galv'd wire, No. 9.....	3.10
Barbed wire, galv'd	3.35
Barbed wire, painted	3.10

Chicago district mill and delivered Chicago prices are \$1 per ton above the foregoing. Birmingham mill prices \$3 a ton higher; Worcester, Mass., mill \$3 a ton higher on production of that plant; Duluth, Minn., mill \$2 a ton higher; Anderson, Ind., \$1 higher.

Woven Wire Fence

Base to Retailers Per Net Ton

F.o.b. Pittsburgh	\$65.00
F.o.b. Cleveland	65.00
F.o.b. Anderson, Ind.....	66.00
F.o.b. Chicago district mills.....	67.00
F.o.b. Duluth	68.00
F.o.b. Birmingham	68.00

Sheets

Blue Annealed

	Base Per Lb.
Nos. 9 and 10, f.o.b. Pittsburgh.....	2.30c. to 2.40c.
Nos. 9 and 10, f.o.b. Ch'go dist. mills.....	2.40c. to 2.50c.
Nos. 9 and 10, del'd Philadelphia.....	2.62c. to 2.72c.

Box Annealed, One Pass Cold Rolled

No. 28, f.o.b. Pittsburgh	3.05c. to 3.15c.
No. 28, f.o.b. Ch'go dist. mill.....	3.25c. to 3.35c.
No. 28, del'd Philadelphia.....	3.37c. to 3.47c.

Galvanized

No. 28, f.o.b. Pittsburgh	4.30c. to 4.40c.
No. 28, f.o.b. Chicago dist. mills.....	4.50c. to 4.60c.
No. 28, del'd Philadelphia.....	4.62c. to 4.72c.

Tin Mill Black Plate

No. 28, f.o.b. Pittsburgh.....	3.15c.
No. 28, f.o.b. Chicago dist. mill.....	3.35c.

Automobile Body Sheets

No. 22, f.o.b. Pittsburgh.....	4.20c. to 4.30c.
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Long Ternes

No. 28, 8-lb. coating, f.o.b. mill.....	4.75c. to 4.85c.
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Tin Plate

	Per Base Box
Standard cokes, f.o.b. P'gh district mills.....	\$5.50
Standard cokes, f.o.b. Gary and Elwood, Ind.....	5.60

Terne Plate

(F.o.b. Morgantown or Pittsburgh)
(Per package, 20 x 28 in.)

8-lb. coating, 100 lb. base	\$11.40
20-lb. coating I.C.....	\$16.20
25-lb. coating I.C.....	17.90
8-lb. coating I.C. 11.70	30-lb. coating I.C. 19.45
15-lb. coating I.C. 14.85	40-lb. coating I.C. 21.65

Alloy Steel Bars

(F.o.b. Pittsburgh or Chicago)

S. A. E. Series Numbers	Base Per 100 Lb.
21.00* (1½% Nickel, 0.10% to 0.20% Carbon)	\$3.20 to \$3.25
23.00 (3½% Nickel)	4.40 to 4.50
2500 (5% Nickel)	5.70 to 5.80
3100 (Nickel Chromium)	3.40 to 3.50
3200 (Nickel Chromium)	5.00 to 5.25
3300 (Nickel Chromium)	7.00 to 7.25
3400 (Nickel Chromium)	6.25 to 6.50
5100 (Chromium Steel)	3.40 to 3.50
5200* (Chromium Steel)	7.00 to 7.50
6100 (Chrom. Vanadium bars).....	4.30
6100 (Chrom. Vanad. spring steel).....	3.80
9250 (Silicon Manganese spring steel)	3.20 to 3.25
Carbon Vanadium (0.45% to 0.55% Carbon, 0.15% Vanad.).....	4.10 to 4.20
Nickel Chrome Vanadium (0.60 Nickel, 0.50 Chrom., 0.15 Vanad.)	4.30
Chromium Molybdenum bars (0.80—1.10 Chrom., 0.25—0.40 Molyb.).....	4.25 to 4.35
Chromium Molybdenum bars (0.50—0.70 Chrom., 0.15—0.25 Molyb.).....	3.40 to 3.50
Chromium Molybdenum spring steel (1—1.25 Chrom., 0.30—0.50 Molybdenum)	4.50 to 4.75

Above prices are for hot-rolled steel bars, forging quality. The ordinary differential for cold-drawn bars is 1c. per lb. higher. For billets 4 x 4 to 10 x 10 in. the price for a gross ton is the net price for bars of the same analysis. For billets under 4 x 4 in. down to and including 2½-in. squares, the price is \$5 a gross ton above the 4 x 4 billet price.

*Not S. A. E. specifications, but numbered by manufacturers to conform to S. A. E. system.

Rails

	Per Gross Ton
Standard, f.o.b. mill.....	\$43.00
Light (from billets), f.o.b. mill.....	34.00
Light (from rail steel), f.o.b. mill.....	32.00
Light (from billets), f.o.b. Ch'go mill	\$36.00 to \$38.00

Track Equipment

(F.o.b. Mill)

	Base Per 100 Lb.
Spikes, ½ in. and larger.....	\$2.80 to \$3.00
Spikes, ½ in. and smaller.....	2.90 to 3.25
Spikes, boat and barge	3.25
Track bolts, all sizes.....	4.00 to 4.50
Tie plates, steel	2.25 to 2.35
Angle bars	2.75

Welded Pipe

Base Discounts, f.o.b. Pittsburgh District and Lorain, Ohio, Mills

Butt Weld

Inches	Steel Black	Galv.	Inches	Iron Black	Galv.
1/8	45	19½	1/4 to 3/8	22	2
1/4 to 3/8	51	25½	3/8	28	11
1/2	56	42½	1 to 1½	30	12
3/4	60	48½			
1 to 3	62	50½			

Lap Weld

2	55	43½	2	23	7
2½ to 6	59	47½	2½	26	11
7 and 8	56	43½	3 to 6	28	13
9 and 10	54	41½	7 to 12	26	11
11 and 12	53	40½			

Butt Weld, extra strong, plain ends

1/8	41	24½	1/4 to 3/8	+19	+54
1/4 to 3/8	47	30½	3/8	21	7
1/2	53	42½	1 to 1½	28	12
3/4	58	47½			
1 to 1½	60	49½			
2 to 3	61	50½			

Lap Weld, extra strong, plain ends

2	53	42½	2	23	9
2½ to 4	57	46½	2½ to 4	29	15
4½ to 6	56	45½	4½ to 6	28	14
7 to 8	52	39½	7 to 8	21	7
9 and 10	45	32½	9 to 12	16	2
11 and 12	44	31½			

To the large jobbing trade the above discounts on steel pipe are increased on black by one point, with supplementary discount of 5%, and on galvanized by 1½ points, with supplementary discount of 5%. On iron pipe, both black and galvanized, the above discounts are increased to large jobbers by one point with supplementary discounts of 5 and 2½%.

Note.—Chicago district mills have a base two points less than the above discounts. Chicago delivered base is 2½ points less. Freight is figured from Pittsburgh, Lorain, Ohio, and Chicago district mills, the billing being from the point producing the lowest price to destination.

Boiler Tubes

Base Discounts, f.o.b. Pittsburgh

Lap Welded Steel	Charcoal Iron
2 to 2½ in.....	27
2½ to 3 in.....	37
3 in.....	40
3½ to 4 in.....	42½
4 to 13 in.....	46
1½ in.....	13
1¾ to 1½ in.....	8
2 to 2½ in.....	2
2½ to 3 in.....	7
3½ to 4½ in.....	9

Beyond the above discounts, 5 to 7 fives extra are given on lap welded steel tubes and 2 tens to 2 tens and 1 five on charcoal iron tubes.

Standard Commercial Seamless Boiler Tubes

Cold Drawn

1 in.....	60	3 in.....	45
1¼ to 1½ in.....	52	3½ to 3¾ in.....	47
1½ in.....	36	4 in.....	50
2 to 2½ in.....	31	4½, 5 and 6 in.....	45
2½ to 3 in.....	39		

Hot Rolled

2 and 2½ in.....	34	3½ and 3¾ in.....	50
2½ and 2¾ in.....	42	4 in.....	53
3 in.....	48	4½, 5 and 6 in.....	48

Less carloads, 4 points less. Add \$8 per net ton for more than four gages heavier than standard. No extra for lengths up to and including 24 ft. Sizes smaller than 1 in. and lighter than standard gage to be held at mechanical tube list and discount. Intermediate sizes and gages not listed take price of next larger outside diameter and heavier gage.

Seamless Mechanical Tubing

	Per Cent Off List
Carbon, 0.10% to 0.30%, base.....	55
Carbon, 0.30% to 0.40%, base.....	50
Plus differentials for lengths over 18 ft. and for commercially exact lengths. Warehouse discounts on small lots are less than the above.	

material carrying large extras and that even a low base price means a higher net price to the maker than 3.10c. or 3.15c., base, which local mills are trying to get for ordinary black sheets. There is a good deal of juggling of the base prices and the extras for pickling and for size, which often produces what seems to be a low base price for black sheets. The ruling market so far as local mills are concerned appears to be 3.10c., base, for black; 4.30c., base, for galvanized; 2.30c., base, for blue annealed, and 4.20c., base, for automobile body sheets. Tin mill black sheets for tinning or enameling sell generally at 3.15c. Prices are given on page 1669.

Tin Plate.—With only a few weeks left to complete the first half of the year, it can now be said that the period will make a new high record mark both in production and shipments. The leading producer in the first five months of the year went well ahead of its record for the same period last year in shipments, and only a sharp and unlooked-for slump in the next few weeks could affect the showing for the first half of the year. The independent companies also have done well. The recent slowing down of production, chiefly a reduction in the number of working turns per week, was probably to be expected in view of the heavy movement to container manufacturers. The American Sheet & Tin Plate Co. is taking third quarter and last half business at \$5.50, per base box Pittsburgh, for standard cokes.

Cold-Finished Steel Bars and Shafting.—There seems to be no material let-down in the production of automobiles, but there has been a considerable decrease in the purchase of cold-finished steel bars by the motor car industry.

Hot-Rolled Flats.—The most cheerful account of business is that it is at least as good as it was a month ago. Buyers are not looking for higher prices and feel entirely safe in buying only their real needs.

Cold-Rolled Strips.—There is still some uncertainty about prices. While makers in this district are holding firmly to 3.75c., base Pittsburgh or Cleveland, lower prices are being encountered both east and west. There is strong competition for what are regarded as desirable accounts; it is in such cases rather than on small tonnages that the lower prices are developing.

Steel and Iron Bars.—There seems to have been a little too much selling of steel bars to the ordinary tonnage buyers at 1.90c., base Pittsburgh, for the advance in prices announced two weeks ago to become effective. New demands are moderate, and there is no evidence yet to indicate that the single carload buyer is obliged to pay more than 2c., base Pittsburgh. The market is firmer in that small lots no longer can be placed at 1.90c. The price of 3c., base Pittsburgh, for refined iron bars refers only to small lots and attractive tonnages would bring out concessions.

Structural Steel.—Mills in this district have made no move to follow the advance recently announced by Chicago manufacturers. The ruling price here still is 1.90c., base Pittsburgh.

Plates.—There is no change in local prices despite the advance in the Chicago district. Ordinary tonnages

still are selling at 1.90c., base Pittsburgh. A fair-sized tonnage of plates will come to local mills in an order for 275 freight cars recently placed by the Tennessee Railroad Co. with the Pressed Steel Car Co. The Dravo Contracting Co. was low bidder on 15 river barges for the United States Engineers, Memphis, Tenn., requiring 1500 tons of plates.

Bolts, Nuts and Rivets.—Demand for bolts and nuts is steady rather than active. The regular quotation on large rivets still is \$2.60, base, per 100 lb., but that quotation is subject to some shading. Prices and discounts are given on page 1671.

Warehouse Business.—The continued decline in the mill prices of sheets is finding reflection in the warehouse prices which, on black and galvanized grades, have been reduced \$2 per ton.

Coke and Coal.—The blowing out of blast furnaces has been responsible for some weakness in the prices of spot furnace coke in the past week, as coke thrown back on the market found a rather limited outlet and this made necessary sales at as low as \$2.75 per net ton at ovens. The accumulation, however, has been fairly well worked off, and it is said that the entire Connellsville district does not now contain more than a hundred carloads of really good furnace coke. Sales of established brands of furnace coke still are being made at as high as \$3 per net ton at ovens, and \$2.90 is about as low as good coke can be obtained. On monthly contracts \$3 seems to be the ruling price, and on one good-sized block sold for shipment over the last half of the year with an option covering the first six months of next year, the average price will be slightly above \$3, provided the option is exercised. Spot foundry coke is holding at recent levels, and coal prices, except for a slight decline in slack grade, also are steady. Although the agreement between the United Mine Workers of America and union coal mine operators does not expire until April 1, next year, important consumers are looking ahead.

Old Material.—This market is firmer on the steel works grades. Dealers who recently sold heavy melting steel at \$15.50 are not finding it at all easy to cover these sales profitably, and with a number of mills offering that price for material to throw down, the market does not appear quotable at less. A year ago, when sales of this grade were made at \$15.50, those who sold lost money, as the market quickly stiffened. It looks like a repetition of history. Dealers have been hopeful that the market would go low enough for them to lay in stocks, but there are a number of steel makers who regard heavy melting steel as cheap at \$15.50 and are ready to pay that price even if they have to lay it down. The change in the attitude of consumers naturally has strengthened the price ideas of dealers, who have quoted as high as \$16.25 for delivery to some Pittsburgh points, and sales have been made to an Ohio River steel maker at \$16. There is a stronger market for the blast furnace grades, with sales noted at \$12 and \$12.50.

We quote for delivery to consumer's mill in the Pittsburgh and other districts taking the Pittsburgh freight rate as follows:

Per Gross Ton

Heavy melting steel.....	\$15.50 to \$16.00
No. 1 cast, cupola size.....	\$16.00 to 16.50
Rails for rolling, Newark and Cambridge, Ohio; Cumberland, Md.; Huntington, W. Va., and Franklin, Pa.	16.00 to 17.00
Compressed sheet steel.....	14.50 to 15.00
Bundled sheets, sides and ends.....	13.50 to 14.00
Railroad knuckles and couplers.....	17.50 to 18.00
Railroad coil and leaf springs.....	17.50 to 18.00
Low phosphorus blooms and billet ends.....	20.00 to 20.50
Low phosphorus plates and other material.....	18.50 to 19.00
Low phosphorus punchings.....	18.50 to 19.00
Steel car axles.....	20.50 to 21.00
Cast iron wheels.....	17.00 to 17.50
Rolled steel wheels.....	17.50 to 18.00
Machine shop turnings.....	11.00
Short shovelling turnings.....	12.00 to 12.50
Sheet bar crops.....	17.50 to 18.00
Heavy steel axle turnings.....	15.00 to 15.50
Short mixed borings and turnings.....	12.00 to 12.50
Heavy breakable cast.....	14.50 to 15.00
Cast iron borings.....	12.00 to 12.50
No. 1 railroad wrought.....	11.50 to 12.00
No. 2 railroad wrought.....	15.00 to 15.50
Railroad or automobile malleable scrap.....	16.00 to 16.50

Warehouse Prices, f.o.b. Pittsburgh

	Base per Lb.
Tank plates.....	3.00c.
Structural shapes.....	3.00c.
Soft steel bars and small shapes.....	2.90c.
Reinforced steel bars.....	2.90c.
Black sheets (No. 28 gage), 25 or more bundles.....	4.00c.
Galvanized sheets (No. 28 gage), 25 or more bundles.....	5.05c.
Blue annealed sheets (No. 10 gage), 25 or more sheets.....	3.55c.
Cold-finished shafting and screw stock—	
Rounds and hexagons.....	3.60c.
Squares and flats.....	4.10c.
Bands.....	3.60c.
Spikes, large.....	3.30c.
Small.....	3.80c. to 5.25c.
Boat.....	3.80c.
Bolts, track.....	4.90c.
Wire, black soft annealed, base per 100 lb.....	\$3.00
Wire, galvanized soft, base per 100 lb.....	3.00
Common wire nails, per keg.....	3.00
Cement coated nails.....	3.05

Chicago

Pig Iron Off 50c. a Ton—Plates and Shapes Now Quoted at 2.10c. to 2.20c.

CHICAGO, June 8.—The Chicago pig iron market is off 50c. a ton on desirable tonnages, quotations on Northern No. 2 foundry now ranging from \$21 to \$21.50, furnace.

In the steel trade the principal development is the stiffening of prices by local mills on plates and shapes, which are now quoted at 2.10c. to 2.20c., Chicago, the lower price on large tonnages and the higher figure on small lots. A similar change a week ago on steel bars stimulated buying of all finished products, with the result that sales for the week were large. Specifications are coming in steadily and are slightly in excess of shipments. The bar market is steady, with specifications particularly heavy from spring makers, forgers and warehouses. The demand for concrete reinforcement steel shows no abatement and improved operations among automotive parts makers have been reflected in increased pressure on the mills. The strength of steel prices has resulted in driving in considerable tonnage, thus replenishing backlogs which for some time had been gradually diminishing. The tendency of ingot production is slightly downward, but blast furnace output continues large, with 28 out of 36 steel works stacks active.

The Norfolk & Western is reported to have ordered 55,000 tons of rails from the Carnegie Steel Co. and the Bethlehem Steel Co. The Illinois Central Railroad has ordered 50 locomotives from the Lima Locomotive Works.

Pig Iron.—Desirable tonnages of foundry and malleable iron have been sold in this district at \$21, furnace. At the same time the bulk of sales, which are of small tonnage and for immediate delivery or within the next 30 days, are bringing \$21.50. To the east and south of Chicago, competition is keen as the result of prices being quoted by producers in Ohio and surrounding territory. A western Michigan melter is inquiring for 3000 tons of malleable and foundry iron and a northern Indiana user will take 1000 tons. The melt in the Chicago district is well maintained at the rate of the past two months, and shipments so far in June are running about equal to the average of the last two weeks in May. A few carlot sales of silvery are reported at current quotations, and the report of a threatened strike of workers at the Jackson County furnaces has caused no reaction in this market.

Quotations on Northern foundry, high phosphorus and malleable iron are f.o.b. local furnace, and do not include an average switching charge of 61c. per ton. Other prices are for iron delivered at consumers' yards.

Northern No. 2 foundry, sil.	1.75	
to 2.25		\$21.00 to \$21.50
Northern No. 1 foundry, sil.	2.25	
to 2.75		21.50 to 22.00
Malleable, not over 2.25 sil.		21.00 to 21.50
High phosphorus		21.00 to 21.50
Lake Superior charcoal, averaging sil. 1.50, delivered at Chicago		29.04
Southern No. 2 (all rail)		\$27.01 to 28.01
Southern No. 2 (barge and rail)		26.18 to 27.18
Low phos., sil. 1 to 2 per cent, copper free		30.70 to 31.20
Silvery, sil. 8 per cent.		32.29
Ferrosilicon, 14 to 16 per cent.		45.79

Ferroalloys.—The only sale reported for the week was a carlot of 19 to 21 per cent spiegeleisen at \$34, Hazzard, Pa., or \$41.76, delivered. Ferrosilicon specifications are in fair volume and ferromanganese is quiet.

We quote 80 per cent ferromanganese, \$95.56, delivered Chicago; 50 per cent ferrosilicon, \$85, delivered; spiegeleisen, 18 to 22 per cent, \$39.76 to \$41.76, delivered Chicago.

Plates.—Chicago district producers have advanced the price on small tonnages of plates \$2 a ton, which is in line with the recent increase in the price of soft steel bars. Quotations now are 2.10c. to 2.20c., Chicago, the former applying to the general run of business and the latter to smaller lots. Plate bookings

for the week were heavy, but they reflected a movement to take advantage of old quotations rather than an increase in consumption. The railroad equipment market is quiet, although it is believed in some quarters that the Rock Island and the Chicago & North Western will close this week on recent inquiries for car rebuilding parts. Local mills have booked about 7000 tons of plates for oil and water tank work.

The mill quotation on plates is 2.10c. to 2.20c. per lb., base, Chicago.

Sheets.—Demand has expanded slightly, but Chicago producers are not receiving specifications which warrant operations at much above 60 per cent of capacity. Prices are weak, and Chicago delivered quotations now range from 2.45c. to 2.55c. for blue annealed, 3.30c. to 3.40c. for black, and 4.55c. to 4.65c. for galvanized sheets.

Chicago delivered prices from mill are 3.30c. to 3.40c. for No. 28 black; 2.45c. to 2.55c. for No. 10 blue annealed; 4.55c. to 4.65c. for No. 28 galvanized. Delivered prices at other Western points are equal to the freight from Gary plus the mill prices, which are 5c. per 100 lb. lower than the Chicago delivered prices.

Structural Material.—Prices on plain material now range from 2.10c. to 2.20c., Chicago, the higher price applying on smaller tonnages. New building projects have added over 12,000 tons of plain material to makers' books, and several small fabricators and a number of small manufacturers and warehouses have taken an additional 6000 tons. Some of this business, no doubt, was driven in because of the greater strength shown by prices. New structural inquiry continues heavy and includes a 34-story tower building for the Medinah Athletic Club. Although shops are well filled with work, fabricators are still complaining that prices obtained are not in line with the cost of materials and fabrication. A 23-story building of the hotel type, requiring close to 2000 tons, is said to have been taken at \$72.50 per ton, delivered. The labor horizon in Chicago is not entirely clear, but thus far construction has not been held up.

The mill quotation on plain material is 2.10c. to 2.20c. per lb. base, Chicago.

Bars.—Demand for soft steel bars continues to grow, and mills are opening negotiations on third quarter tonnages. Although May bar bookings were unusually heavy, orders during the past seven days are ahead of the closing week in May by a large percentage. Orders from warehouses and reinforcing bar dealers are particularly heavy and specifications from spring makers and forgers are in good volume. Releases within the past 10 days from automobile parts makers have been particularly heavy and indicate improved operations. Local mills are quoting 2.10c. to 2.20c., Chicago, on new business.

Iron bars are firm at 2c., Chicago. Farm implement and wheel makers are showing greater activity, and specifications this week from the railroads are better than they were in the latter part of May. Demand for rail steel bars is gradually expanding, due largely to the more extensive use of rerolled steel for concrete reinforcement. Shipments of fence posts are somewhat lighter, although still heavy considering the time of the year. Rail steel bar specifications were ahead of shipments during May, and the same holds true for the first few days of June. Rail steel bars are still quotable at 1.90c. to 2c., Chicago.

Mill prices per lb. are: Mild steel bars, 2.10c. to 2.20c., base, Chicago; common bar iron, 2c., base, Chicago; rail steel bars, 1.90c. to 2c., base, Chicago.

Reinforcing Bars.—Dealers in billet steel reinforcing bars continue to adhere to the established price of 2.60c. per lb., Chicago warehouse, for average tonnages, and 2.75c. for small lots, although local mills have advanced their prices \$2 a ton. Competition is keen, and dealers are disposed to await the firm establishment of the new mill prices before taking steps toward a revision of warehouse quotations. Lettings for the week were confined largely to small projects, of which there were an unusual number. Inquiry is brisk. Among the larger local projects that have recently come up for figures is the Lakeview Avenue Apartment, requiring 1300 tons, and the Carlson Apartment Hotel, which calls for

about 1300 tons. One of six proposed public school buildings for Chicago has been placed, and the remaining five are active. New inquiries and current lettings are shown on page 1677.

Rails and Track Supplies.—Formal rail orders this week include 4000 tons placed by several frog and switch makers and the 2100 tons placed in this district by the Southern Railway. The Southern Pacific order for 24,000 tons of rails was about equally divided between the Bethlehem Steel Co. and the Colorado Fuel & Iron Co., rather than as previously reported. The 3600 tons of fastenings were proportioned with the rails. Track supply bookings for the week totaled 3500 tons, and orders for light rails about 200 tons. Specifications for standard-section rails are heavy and are in excess of shipments. Steel tie plates are still quotable at 2.25c. to 2.35c., local mill.

Standard Bessemer and open-hearth rails, \$43; light rails, rolled from billets, \$36 to \$38 per gross ton, f.o.b. maker's mill.

Standard railroad spikes, 2.90c. to 3c. per lb. mill; track bolts with square nuts, 3.90c. to 4c. mill; steel tie plates, 2.25c. to 2.35c. mill; angle bars, 2.75c., mill.

Wire Products.—In new business the first week in June is well in advance of the closing days of May. Buying by the jobbing trade is liberal, particularly in the Midwestern States, and demand from manufacturers in practically all lines is more active. Buying, on the whole, is at close range, and neither jobbers nor manufacturers are inclined to stock except for the immediate future. Automobile accessory manufacturers are considerably more active than has been the case for the past month or six weeks. Mill operations are about 60 per cent of capacity, and producers are holding down mill stocks. Shipments, which mills believe are going directly into consumption, are approximately equal to orders. Mill prices are shown on page 1669.

Bolts, Nuts and Rivets.—Contracts for the third quarter are now being offered to users, and makers are finding virtually no resistance to current prices. Specifications are still light, although showing improvement over the previous week, particularly from the Midwestern States bordering on the Mississippi River. Orders from the automobile trade are spotty, but makers of tractors are operating at close to capacity and specifying liberally. There is slightly better demand from farm implement manufacturers, but makers of bolts, nuts and rivets do not anticipate a material increase in business from this source until after the mid-year inventory period. Prices, on the whole, are firm except on small rivets, which are now quoted at 70, 10 and 5 to 70 and 10 off list.

Cast Iron Pipe.—The market is considerably quieter, although a fair number of purchases, averaging less than 100 tons each, is still being placed from day to day. Shipments are about equal to foundry output, but bookings exceed production and deliveries are gradually extending. Prices are unsteady and now range from

\$41 to \$41.50, base Birmingham, for 6 in. and larger diameters. The low bidder on the general contract for 200 tons of 6, 8 and 12-in. Class B pipe for Oak Park, Ill., was Malachi Murphy. The United States Cast Iron Pipe & Foundry Co. has been awarded 300 tons of 6 and 8-in. Class B pipe by Mankato, Minn.

We quote per net ton, delivered Chicago, as follows: Water pipe, 4-in., \$53.20 to \$53.70; 6-in. and over, \$49.20 to \$49.70; Class A and gas pipe, \$4 extra.

Cold-Rolled Strip.—There is a noticeable increase in demand from bed manufacturers, and at the same time automobile accessory makers are specifying more liberally. New business from the entire trade is in fair volume, but the bulk of orders specify early delivery. Prices are steady at 3.75c., base Cleveland, or 4.05c., delivered Chicago.

Coke.—Shipments are well maintained and quotations are steady at \$9.75, ovens, and \$10.25, delivered in the Chicago switching district.

Old Material.—Demand is too light to absorb the tonnage which is appearing on track. Although there are some changes in prices, it cannot be said that the market has any decided trend. Heavy melting steel is still quoted at \$12 to \$12.50, and the only sale reported is four carloads taken by a steel mill at the lower figure. The Chicago & North Western is said to have received slightly more than \$13 for the heavy melting steel on its recent list. The impression is gaining ground throughout the trade that the market is at or close to the bottom, and this has led some dealers to turn their attention toward speculation. The tendency, therefore, is to bid up railroad lists. The carriers continue to offer large tonnages, and the indications are that the heavy spring movement of railroad scrap is still under way. A heavy tonnage of railroad malleable has been taken by a Chicago user at \$16.50 delivered. The same grade was sold by a railroad at \$16.75 per gross ton delivered. The St. Paul list, closed last week, contained 2200 tons of mixed scrap, which was purchased at \$9 per net ton on track. This was taken in by a dealer for preparation at his yard. Railroad lists include 5000 tons offered by the Santa Fe and 3000 tons advertised by the Pere Marquette.

We quote delivered in consumers' yards, Chicago and vicinity, all freight and transfer charges paid for all items except relaying rails, including angle bars to match, which are quoted f.o.b. dealers' yards:

Per Gross Ton

Heavy melting steel	\$12.00 to \$12.50
Frogs, switches and guards, cut apart, and miscellaneous rails	13.25 to 13.75
Shoveling steel	12.00 to 12.50
Hydraulic compressed sheets	10.00 to 10.50
Drop forge flashings	9.00 to 9.50
Forged, cast and rolled steel car wheels	16.00 to 16.50
Railroad tires, charging box size	16.25 to 16.75
Railroad leaf springs, cut apart	16.00 to 16.50
Steel couplers and knuckles	15.00 to 15.50
Coil springs	16.50 to 17.00
Low phos. punchings	15.00 to 15.50
Axle turnings, foundry grade	13.00 to 13.50
Axle turnings, blast furn. grade	11.00 to 11.50
Relaying rails, 56 to 60 lb.	25.00 to 26.00
Relaying rails, 65 lb. and heavier	26.00 to 31.00
Rerolling rails	15.00 to 15.50
Steel rails, less than 3 ft.	16.00 to 16.50
Iron rails	13.50 to 14.00
Cast iron borings	9.75 to 10.25
Short shoveling turnings	9.75 to 10.25
Machine shop turnings	6.50 to 7.00
Railroad malleable	16.25 to 16.75
Agricultural malleable	15.00 to 15.50
Angle bars, steel	14.00 to 14.50
Cast iron car wheels	15.00 to 15.50

Per Net Ton

No. 1 machinery cast	15.75 to 16.25
No. 1 railroad cast	15.00 to 15.50
No. 1 agricultural cast	14.50 to 15.00
Stove plate	13.00 to 13.50
Grate bars	12.50 to 13.00
Brake shoes	11.50 to 12.00
Iron angle and splice bars	13.00 to 13.50
Iron arch bars and transoms	18.50 to 19.00
Iron car axles	23.50 to 24.00
Steel car axles	17.00 to 17.50
No. 1 railroad wrought	11.00 to 11.50
No. 2 railroad wrought	10.75 to 11.25
No. 1 busheling	9.25 to 9.75
No. 2 busheling	5.50 to 6.00
Locomotive tires, smooth	15.50 to 16.00
Pipes and flues	8.00 to 8.50

Warehouse Prices, f.o.b. Chicago

	Base per Lb.
Plates and structural shapes	3.10c.
Mild steel bars	3.00c.
Reinforcing bars, billet steel	2.60c.
Cold-finished steel bars and shafting—	
Rounds and hexagons	3.60c.
Flats and squares	4.10c.
Hoops	4.15c.
Bands	3.65c.
No. 28 black sheets	4.10c.
No. 10 blue annealed sheets	3.50c.
No. 28 galvanized sheets	5.25c.
Standard railroad spikes	3.55c.
Track bolts	4.55c.
Structural rivets	3.50c.
Boiler rivets	3.70c.
	Per Cent Off List
Machine bolts	50 and 5
Carriage bolts	47½
Coach or lag screws	55 and 5
Hot-pressed nuts, square, tapped or blank, 3.25c. off per lb.	
Hot-pressed nuts, hexagons, tapped or blank, 3.75c. off per lb.	
No. 8 black annealed wire, per 100 lb.	\$3.30
Common wire nails, base, per keg	3.05
Cement coated nails, base per keg	3.05

Cleveland

Sales of 50,000 Tons of Pig Iron—Third Quarter Bar Contracts Closed at 2c.

CLEVELAND, June 8.—Considerable activity has developed in pig iron, and sales by Cleveland interests during the week aggregated around 50,000 tons in foundry and malleable grades. Mills are getting a fair volume of orders against contracts for steel bars, plates and structural material, and some new business in steel bars is being taken in third quarter contracts at the price of 2c., Pittsburgh, which is being maintained. Plates are moving somewhat better than recently and are firm at 1.90c., Pittsburgh. Structural material is also holding to 1.90c.

Some third quarter contracts for various steel mill products are being placed by the automotive industry, and specifications both from motor car builders and parts makers indicate little change in production schedules from last month. Lake shipyards have received an inquiry from the Wabash Railway for three car ferries requiring 7500 tons of steel. With these there are six lake boats under negotiation.

Inquiries have come out for several round lots of structural steel for railroad and highway bridge work, but demand for structural steel for building work in this district is light and the same is true in the Detroit territory.

Iron Ore.—Ore shipments for the season to June 1 are over 4,000,000 tons short of those for the same period last year, owing to the late opening of navigation this year. Shipments during May amounted to 6,112,981 tons, a decrease of 2,201,003 tons as compared with May last year. Only one cargo was shipped in April. Total shipments up to June 1 were 6,122,645 tons, a decrease of 4,312,054 tons as compared with the movement up to June 1 a year ago. Nearly all the lake boats are now in commission, and assuming that the total movement for the season will be the same as last year, they will be kept busy until the close of the season of navigation. Ore buying has virtually stopped. However, there is a little inquiry for cheap ore from furnaces that figure that they may be able to meet the present situation in respect to low pig iron prices by buying ores that will enable them to cut down their production costs.

Shipments of Lake Superior ore from Lake Erie ports during May were 2,914,578 tons, as compared with 4,003,537 tons during May last year. The dock balance June 1 was 4,323,944 tons, as compared with 4,522,184 tons on June 1 last year.

Pig Iron.—The market became rather active the past week, evidently being stimulated by the 50c. reduction by Valley producers to \$18, furnace, on the sale of a large tonnage to a Pittsburgh sanitary interest. Considerable business in foundry and malleable iron, including several lots of around 5000 tons, was booked in northern and western Ohio and western Indiana. While most of the sales were for the third quarter, some were for delivery during the last half. The buying movement was not so noticeable in Michigan, as little business came from the automotive industry. Some of the Valley producers are still holding to \$18.50, furnace, and doubt whether any more Valley iron is available at \$18. Cleveland iron has been rather commonly quoted at \$18, furnace, for some time for shipment to competitive districts. For Cleve-

land delivery a further concession of 25c. a ton to \$19.25, furnace, has been made by a local producer on the sale of a 1500-ton lot, evidently reflecting the price dip in the Valley district. With Cleveland iron at \$19.25, the local delivered price is the same as that on iron from the Valley district at \$18, furnace. A nearby foundry is inquiring for 2000 tons of 2.25 to 2.75 per cent silicon iron, on which a Cleveland producer has quoted \$19.50, or equivalent to an \$18.50, base furnace. In Michigan the price on foundry and malleable iron has further declined 50c. a ton to \$20, furnace. The General Electric Co. has placed 6000 tons for which it recently sent inquiries to Cleveland producers. The American Brake Shoe & Foundry Co. is inquiring for 8000 tons of foundry iron for its Cleveland and Pittsburgh plants. One producer now has live inquiries for 25,000 tons of iron. Small-lot sales of low phosphorus are reported at \$27.50, furnace and two inquiries for 400-ton lots are pending. The Otis Steel Co., Cleveland, will blow out one of its furnaces June 10 for relining.

Quotations below, except on basic and low phosphorus iron, are delivered Cleveland, and for local iron include a 50c. switching charge. Ohio silvery and Southern iron prices are based on a \$3.02 freight rate from Jackson and \$6.01 from Birmingham:

Basic, Valley furnace	\$18.00
N'th'n No. 2 fdy., sil. 1.75 to 2.25	19.75
Southern fdy., sil. 1.75 to 2.25	26.51 to 28.01
Malleable	19.75
Ohio silvery, 8 per cent	30.52
Standard low phos., Valley furnace	27.50

Semi-Finished Steel.—Some of the sheet mills are trying to break the sheet bar market on small-lot inquiries for early shipment, but their efforts apparently have not proved successful. Specifications against contracts are light.

Sheets.—Demand has increased a little, but mills are still in need of orders for early rolling and prices are still very weak, particularly on black sheets. On these the general price range is 3c. to 3.15c., Pittsburgh, although the sale of a small lot carrying a pickling extra is reported at 2.90c., base. Some third quarter business has been taken at 3.10c. On blue annealed sheets 2.30c., base Pittsburgh, is a common quotation, and although there has been a price of 2.25c. on this grade, that quotation seems to have disappeared. Galvanized sheets are rather generally quoted at 4.30c., but some business is going at 4.25c. Automobile body sheets are firm at 4.20c. One Ohio mill has announced third quarter prices at 3.15c., Pittsburgh, for black, 2.40c. for blue annealed, and 4.40c. for galvanized.

Cold-Rolled Strip Steel.—A few contracts for the third quarter have been closed at 3.75c., Cleveland. This is the regular quotation and apparently is being fairly well maintained.

Reinforcing Bars.—The Bourne-Fuller Co. has taken 1700 tons for the Cleveland sewage disposal plant. Inquiry has improved, but it is all for small lots. With the stiffening on commercial steel bars, new billet steel reinforcing bars are no longer openly quoted below 2c., Pittsburgh. Rail steel bars are unchanged at 1.80c., mill.

Warehouse Business.—Orders have picked up somewhat. With the recent reduction on sheets, all regular warehouse prices are now being well maintained.

Fluorspar.—Some consumers of gravel fluorspar are covering for the third quarter, and contracts booked during the week included one for 1000 tons for that delivery taken at \$18, mine. For early shipment this material ranges from \$17.50 to \$18.

Coke.—Some of the foundries in this territory are buying Connellsville foundry coke at \$3.75, ovens, but the range on standard brands is unchanged at \$4 to \$5.50, ovens. One maker of premium foundry coke has opened its books for the last half at \$5.50, ovens, its current price. Ohio by-product foundry coke is unchanged at \$7.50, ovens.

Old Material.—Machine shop turnings and several other grades have further declined, and considerable scrap is being offered at present prices. Although the market is weak, more resistance is being shown.

Warehouse Prices, f.o.b. Cleveland

	Base per Lb.
Plates and structural shapes	3.00c.
Mild steel bars	3.00c.
Cold-finished rounds and hexagons	3.90c.
Cold-finished flats and squares	4.40c.
Hoops and bands	3.65c.
No. 28 black sheets	3.85c.
No. 10 blue annealed sheets	3.15c.
No. 28 galvanized sheets	5.00c.
No. 9 annealed wire, per 100 lb.	\$3.00
No. 9 galvanized wire, per 100 lb.	3.45
Common wire nails, base, per keg	3.00

against further reductions than has appeared recently. While dealers are not inclined to sell short at present prices, they do not appear to have enough confidence in the market to buy for yard stocks. A local mill is again taking shipments on machine shop turnings. There is some activity in this grade, which dealers have bought at as low as \$9.25, but they are asking mills \$9.75 to \$10. Dealers are paying \$13.75 for heavy melting steel and \$11.25 to \$11.35 for cast iron borings.

We quote per gross ton delivered consumers' yards in Cleveland:

Heavy melting steel	\$13.50 to \$14.00
Rails for rolling	16.25 to 16.50
Rails under 3 ft.	17.00 to 17.50
Low phosphorus billet, bloom and slab crops	18.00 to 18.50
Low phosphorus sheet bar crops ..	18.00 to 18.75
Low phosphorus plate scrap	18.00
Light plate scrap	17.50
Low phosphorus forging crops ..	16.75 to 17.25
Cast iron borings	11.00 to 11.50
Machine shop turnings	9.25 to 9.75
Mixed borings and short turnings ..	11.00 to 11.50
Compressed sheet steel	13.00 to 13.25
No. 1 railroad wrought	11.50 to 12.00
No. 2 railroad wrought	13.50 to 14.00
Railroad malleable	18.50 to 19.00
Light bundled sheet stampings ..	11.00 to 11.50
Steel axle turnings	12.50 to 13.00
No. 1 cast	16.50 to 17.00
No. 1 busheling	11.00 to 11.50
No. 2 busheling	10.50 to 11.00
Drop forge flashings, 15 in. and under	11.50 to 12.00
Railroad grate bars	12.50 to 13.00
Stove plate	11.50 to 12.00
Pipes and flues	10.00 to 10.50

New York

Bar Prices for Small Lots Irregular—Pig Iron Inquiry More Active

NEW YORK, June 8.—While competition for pig iron orders is keen and price irregularities are not unheard of, inquiry is on the increase. Close to 15,000 tons is now pending in this market, including about 3500 tons for the General Electric Co., which has not yet been placed. For its Erie, Pa., plant that company bought 2500 tons, presumably from a nearby producer. The Moore Brothers Co., Elizabeth, N. J., has entered the market for 300 tons each of No. 3 foundry and Bessemer iron and 400 tons of No. 2X foundry for third quarter. The Thatcher Furnace Co., New York, is inquiring for 2000 tons of foundry, and the Gould Coupler Co., New York, wants 500 to 1000 tons for its Depew, N. Y., works. For its Harrison, N. J., plant the Worthington Pump & Machinery Corporation is taking figures on 580 tons. Another inquiry in this territory calls for 1500 tons for early delivery. In New England the Sullivan Machinery Co. wants 100 tons of malleable and 200 tons of foundry for its Claremont, N. H., plant, and a Bridgeport, Conn., buyer is in the market for 300 tons of No. 1X foundry. Total sales in this territory during the past week are estimated at 6000 tons. Prices on foreign iron still range from \$20 to \$21, duty paid port of entry.

We quote per gross ton delivered in the New York district as follows, having added to furnace prices \$2.52 freight from eastern Pennsylvania, \$4.91 from Buffalo and \$5.54 from Virginia:

East Pa. No. 2 fdy., sil. 1.75 to 2.25	\$24.02
East Pa. No. 2X fdy., sil. 2.25 to 2.75	24.52
East Pa. No. 1X fdy., sil. 2.75 to 3.25	25.02
Buffalo fdy., sil. 1.75 to 2.25 (all-rail)	24.91
Buffalo fdy., sil. 1.75 to 2.25 (by barge canal, del'd alongside in lighterage limits, N. Y. and Brooklyn)	22.75
No. 2 Virginia fdy., sil. 1.75 to 2.25	27.54 to 29.54

Ferrolloys.—No demand for ferromanganese is reported except an occasional carload or small lot and prices are unchanged with the minimum at \$88, sea-board. Demand for spiegeleisen is confined to carload and small lots and a fair business of this nature is being done. There are frequent importations of small lots of spiegeleisen, largely British. Specifications on contracts for all ferrolloys continue heavy.

Warehouse Business.—Buying from stock is apparently in about the same volume as during May and prices are fairly firm on most products. There is a good demand for small lots of structural steel and reinforcing bars but plates are quiet. Sheet prices continue firm and unchanged at 4.50c. for black and 5.50c. for galvanized with a 15c. per 100 lb. reduction for lots of 50 bundles or more.

Finished Steel.—The past week has brought somewhat quieter business in finished steel lines. Whether there has been an actual falling off in the volume of orders is not fully apparent, but the trend of buying during the first week of the month points that way. There are some exceptions, pipe and structural steel standing out as more active than other products. In steel bars there is little doing, as nearly all of the larger users got under cover until July 1 at 1.90c., Pittsburgh; hence the present quotation of 2c. affects only small current orders. Specifications on contracts (which are open until July 1) are expected to provide in most cases for July's needs, and any volume of buying at 2c. is thus postponed. Carload lots appear obtainable at 2c. rather than 2.10c., or at least the small-

Warehouse Prices, f.o.b. New York

	Base per Lb.
Plates and structural shapes	3.34c.
Soft steel bars and small shapes	3.24c.
Iron bars	3.24c.
Iron bars, Swedish charcoal	7.00c. to 7.25c.
Cold-finished steel shafting and screw stock—	
Rounds and hexagons	4.00c.
Flats and squares	4.50c.
Cold-rolled strip, soft and quarter hard ..	6.25c.
Hoops	4.49c.
Bands	5.99c.
Blue annealed sheets (No. 10 gage)	3.89c.
Long terme sheets (No. 28 gage)	6.35c.
Standard tool steel	12.00c.
Wire, black annealed	4.50c.
Wire, galvanized annealed	5.15c.
Tire steel, 1½ x ½ in. and larger	3.30c.
Smooth finish, 1 to 2½ x ¼ in. and larger	3.65c.
Open-hearth spring steel, bases	4.50c. to 7.00c.
	Per Cent Off List
Machine bolts, cut thread	40 and 10
Carriage bolts, cut thread	30 and 10
Coach screws	40 and 10
Boiler Tubes—	Per 100 Ft.
Lap welded steel, 2-in.	\$17.33
Seamless steel, 2-in.	20.24
Charcoal iron, 2-in.	25.00
Charcoal iron, 4-in.	67.00
	Discounts on Welded Pipe
Standard Steel—	Black Galv.
½-in. butt	46 29
¾-in. butt	51 37
1-in. butt	53 39
2½-6-in. lap	48 35
7 and 8-in. lap	44 17
11 and 12-in. lap	37 12
Wrought Iron—	
½-in. butt	4 +19
¾-in. butt	11 + 9
1-1½-in. butt	14 + 6
2-in. lap	5 +14
3-6-in. lap	11 + 6
7-12-in. lap	3 +16

	Prime	Seconds
Coke, 100-lb. base box	\$6.45	\$6.20
Charcoal, per box—	A	AAA
IC	\$9.70	\$12.10
IX	12.00	14.25
IXX	13.90	16.00

	Prime	Seconds
Terne Plate (14 x 20 in.)		
IC—20-lb. coating	\$10.00 to \$11.00	
IC—30-lb. coating	12.00 to 13.00	
IC—40-lb. coating	13.75 to 14.25	
Sheets, Box Annealed—Black, C. R. One Pass†		
	Per Lb.	
Nos. 18 to 20	4.15c. to 4.30c.	
Nos. 22 and 24	4.20c. to 4.35c.	
No. 26	4.25c. to 4.40c.	
No. 28*	4.35c. to 4.50c.	
No. 30	4.55c. to 4.70c.	

	Per Lb.
Sheets, Galvanized†	
No. 14	4.45c. to 4.60c.
No. 16	4.60c. to 4.75c.
Nos. 18 and 20	4.75c. to 4.90c.
Nos. 22 and 24	4.90c. to 5.05c.
No. 26	5.05c. to 5.20c.
No. 28*	5.35c. to 5.50c.
No. 30	5.85c. to 6.00c.

*No. 28 and lighter, 36 in. wide, 20c. higher per 100 lb.
†Lower price is for lots of 50 bundles or more.

lot price is irregular. Plates are holding at 1.90c. and the bulk of the business in structural shapes is at the same price, but on the latter there are occasional concessions, usually made by one or two mills. While there is talk among steel companies of an advance to 2c. on plates and shapes for third quarter, to put these products on a price parity with bars, there is no indication yet that buyers are taking this seriously enough to anticipate their requirements for that period. Some buyers have made inquiry regarding third quarter plate contracts, but little, if any, contracting has been done. Sheets are notably weak and both buyers and sellers are wondering just where the bottom may be. Some of the lowest prices are exceptional and apply only on a small part of the going tonnage, but nevertheless they are a disturbing factor. The so-called market price on black sheets is 3.10c., Pittsburgh, but sales have been made at 3c. and 3.05c. On galvanized sheets the range is 4.30c. to 4.40c., Pittsburgh, but a few sales have been made at 4.25c. Likewise on blue annealed sheets the low point is 2.30c., although most of the sales are at 2.35c. and 2.40c., Pittsburgh.

We quote for mill shipments, New York delivery, as follows: Soft steel bars, 2.34c. per lb.; plates, 2.19c. to 2.24c.; structural shapes, 2.14c. to 2.24c.; bar iron, 2.24c.

Cast Iron Pipe.—Most producers are booked well up to September on practically all sizes, and prices are quite firm. The American Cast Iron Pipe Co. has been taking centrifugal pipe business for delivery in July and August from its new shop at prices understood to be about \$1 per ton under the quotation for hand cast pipe of the same dimensions. The city of New York has appropriated about \$2,400,000 for purchase and installation of cast iron gas and water pipe, but no inquiry has been issued. Rahway, N. J., has been taking bids on a small quantity of pipe of different sizes for the construction of an underground filter. The Rondout Paper Mills, Inc., Napanoch, N. Y., is reported considering the purchase of a small lot of pipe. Montclair, N. J., has closed on 500 tons of 6 and 8-in. pipe with the Warren Foundry & Pipe Co.

We quote pressure pipe per net ton, f.o.b. New York in carload lots, as follows: 6-in. and larger, \$50.60 to \$52.60; 4-in. and 5-in., \$55.60 to \$57.60; 3-in., \$65.60 to \$67.60; with \$5 additional for Class A and gas pipe.

Old Material.—The eastern Pennsylvania consumer of heavy melting steel reported last week as about to purchase a small tonnage of steel has not yet closed but is expected to do so in a few days. Brokers continue to purchase sufficient quantities for the current demand at \$14.50 to \$15 per ton, delivered. A Phoenix, Pa., consumer has contracted for small tonnages of bundled skeleton and machine shop turnings for which brokers are paying \$13 per ton, delivered. Stove plate for steel mill use is being purchased at \$13 per ton, delivered. To local foundries \$12.50 per ton, delivered, is being offered. Most grades of scrap are unchanged in price and the undertone of weakness continues throughout the market.

Buying prices per gross ton, New York, follow:

Heavy melting steel (yard).....	\$9.75 to \$10.25
Heavy melting steel (railroad or equivalent)	11.25 to 11.75
Rails for rolling	11.50 to 12.00
Relaying rails, nominal	23.00 to 24.00
Steel car axles	18.50 to 19.00
Iron car axles	21.50 to 22.00
No. 1 railroad wrought	13.50 to 14.00
Forge fire	9.50 to 10.00
No. 1 yard wrought, long.....	11.50 to 12.00
Cast borings (steel mill)	9.25 to 9.75
Cast borings (chemical).....	11.75 to 12.75
Machine shop turnings.....	9.00 to 9.50
Mixed borings and turnings....	9.25 to 9.75
Iron and steel pipe (1 in. diam., not under 2 ft. long)	11.25 to 11.50
Stove plate (steel mill)	9.25 to 9.75
Stove plate (foundry).....	10.25 to 10.50
Locomotive grate bars	10.25 to 10.75
Malleable cast (railroad)	16.00 to 16.50
Cast iron car wheels	12.25 to 12.75
No. 1 heavy breakable cast	12.00 to 13.00

Prices which dealers in New York and Brooklyn are quoting to local foundries per gross ton follow:

No. 1 machinery cast	\$16.50 to \$17.00
No. 1 heavy cast (columns, building material, etc.), cupola size	15.00 to 15.50
No. 2 cast (radiators, cast boilers, etc.).....	14.00 to 14.50

Coke.—Foundry coke continues quiet and prices unchanged. Furnace grade is slightly more active and

prices firmer. The 3500 tons for a consumer in this district reported last week has been closed. The inquiry of the New York Air Brake Co. for a small lot of by-product coke is still open. Standard foundry ranges from \$7.91 to \$9.41 per net ton, delivered Newark and Jersey City, N. J.; \$8.03 to \$9.53, delivered northern New Jersey, and \$8.79 to \$10.29, delivered New York or Brooklyn, N. Y. By-product continues at \$9.75 to \$10.77, delivered Newark or Jersey City, N. J.

Philadelphia

Some Buying of Pig Iron for Third Quarter—Steel Business Fairly Good

PHILADELPHIA, June 8.—The week brought buying of pig iron for third quarter and a gain in steel orders over the last week of May. The amount of pig iron buying has not been large, but there is a fair amount of inquiry in the market and indications are that a good deal of iron for the next quarter may be sold during the remainder of this month. The continuance of fairly good steel buying is surprising to the mills, which have expected a greater falling off than has taken place. In structural orders last month was the best month of this year with the largest Eastern producer.

Pig Iron.—Several fair-sized orders for foundry iron for third quarter have been placed during the week, giving rise to the expectation that a buying movement for that period may be in the making. Most of the demand, however, is for July and August rather than for all three months. A steel company which recently closed for a round tonnage of basic for June has purchased an additional tonnage, but has not covered its requirements beyond July. Prices of foundry iron are fairly stable on the basis of \$21.50, furnace, for No. 2 plain and \$22 for No. 2X. Occasional concessions appear when a furnace meets lower freight rates from competing furnaces. In one case, for example, the net price at furnace on a tonnage of No. 2X iron was \$21.75. Importers of pig iron, recently disturbed by the possibility of a countervailing duty on German iron, are facing another situation which may add to the costs of handling imported iron at this port. The railroads have permitted such importers the use of cars for 15 days while boats were being unloaded and then have been charging only a nominal amount for storage for another 15 days. A change that is in prospect would provide a demurrage charge of \$2 a day per car for the first few days, after which the charge would be \$5 a day. This might do away almost entirely with the practice of bringing iron in on speculation.

The following quotations are, with the exception of those on low phosphorus iron, for delivery at Philadelphia and include freight rates varying from 76c. to \$1.63 per gross ton:

East. Pa. No. 2 plain, 1.75 to 2.25 sil.	\$22.26 to \$22.76
East. Pa. No. 2X, 2.25 to 2.75 sil.	22.76 to 23.26
East. Pa. No. 1X	23.26 to 23.76
Virginia No. 2 plain, 1.75 to 2.25 sil.	27.67 to 28.67
Virginia No. 2X, 2.25 to 2.75 sil.	28.17 to 29.17
Basic delivered eastern Pa.	21.75 to 22.25
Gray forge	22.00 to 22.50
Malleable	22.50 to 23.00
Standard low phos. (f.o.b. furnace)	22.00 to 23.00
Copper bearing low phos. (f.o.b. furnace)	23.50 to 24.00

Ferroalloys.—Quotations on ferromanganese range from \$88 to \$95, furnace, with little business being done.

Billets.—With buying at a minimum, prices of billets show no change, \$35, Pittsburgh, for rerolling quality and \$40 for forging quality ruling on current transactions.

Plates.—Orders for plates in the first week of June were in larger total than in the preceding week. Plate business has declined somewhat from earlier months of the year, but is still fairly good. Prices are firm on the basis of 1.90c., Pittsburgh.

Structural Material.—The City Hall Annex, the largest fabricated steel job of the past several weeks, has been awarded to the American Bridge Co., the steel amounting to 3350 tons. A number of smaller jobs have been let. Quotations for plain material range from about 1.80c. to 1.90c., Pittsburgh.

Bars.—Although practically all of the bar mills are quoting 2c., Pittsburgh, on current small orders, the amount of business at that figure is not large, because a majority of bar consumers got under cover at 1.90c. That price is still open on the more attractive tonnages, but not all mills will quote it. Bar iron remains at 2.22c., Philadelphia.

Sheets.—Continued weakness in sheets has carried prices to low points, but the situation is not much different in that respect than existed a week ago. Black sheets have been sold at prices ranging from 3c. to 3.15c., Pittsburgh, while the range on galvanized is 4.30c. to 4.40c. and on blue annealed, 2.30c. to 2.40c. In a few cases 4.25c. has been quoted on galvanized sheets.

Imports.—The only pig iron received at this port last week was 1300 tons from Germany. Other imports were: 4600 tons of iron ore from Algeria; 163 tons of iron ore from Spain; 38 tons of structural steel from Germany, and 23 tons of cast iron pipe from France.

Old Material.—A steel company has bought a number of small lots of steel scrap at \$15.50. One or two brokers were not willing to accept orders at less than

\$16, but no business was done at the higher figure. Aside from these transactions, involving only a few thousand tons, the scrap market has been exceedingly quiet, with prices on some grades registering further declines. Low phosphorus melting steel, couplers and knuckles and railroad wrought are particularly weak, but shafting and steel axles have also declined.

We quote for delivery, consuming points in this district, as follows:

No. 1 heavy melting steel.....	\$15.00 to \$15.50
Scrap rails	15.00 to 15.50
Steel rails for rolling.....	15.50 to 16.00
No. 1 low phos., heavy, 0.04 per cent and under.....	19.00 to 20.00
Couplers and knuckles.....	17.50 to 18.00
Rolled steel wheels.....	17.50 to 18.00
Cast iron car wheels	17.00 to 17.50
No. 1 railroad wrought.....	16.50 to 17.00
No. 1 yard wrought.....	16.00 to 16.50
No. 1 forge fire	13.50
Bundled sheets (for steel works)	13.00 to 13.50
Mixed borings and turnings (for blast furnace)	12.50 to 13.00
Machine shop turnings (for steel works)	13.00
Heavy axle turnings (or equivalent)	14.00 to 14.50
Cast borings (for steel works and rolling mill).....	13.00 to 13.50
Cast borings (for chemical plant)	15.50 to 16.00
No. 1 cast	17.00 to 18.00
Heavy breakable cast (for steel works)	16.00 to 16.50
Railroad grate bars	13.50
Stove plate (for steel works)....	13.50
Wrought iron and soft steel pipes and tubes (new specifications)	15.00
Shafting	20.00 to 21.00
Steel axles	21.50 to 22.00

REINFORCING STEEL

Awards of About 6000 Tons and New Projects Amount to Nearly 5500 Tons

In a total of about 6000 tons of concrete reinforcing bars awarded during the week the only lot of outstanding size was 1700 tons for a Cleveland sewage disposal plant. New projects reported total nearly 5500 tons, of which 2000 tons is for harbor work at Mobile, Ala., and 1300 tons is for a Chicago apartment building. Awards follow:

NEW YORK, 400 tons, sewers, placed by P. J. Coogan, general contractor, with Concrete Steel Co.
 BROOKLYN, 100 tons, dock for American Sugar Refineries, to Concrete Steel Co.
 FLUSHING, N. Y., 100 tons, warehouse, O'Neil Supply Co., placed by Walter Kidde & Co., New York, with Kalman Steel Co.
 MOUNT VERNON, N. Y., 100 tons, Third Avenue Bridge, Westchester County Park Commission, to Joseph T. Ryerson & Son.
 MONTAUK POINT, LONG ISLAND, 200 tons, Montauk Point Hotel, to Kalman Steel Co.
 PHILADELPHIA, 180 tons, sewer work, to Jones & Laughlin Steel Corporation through A. Taylor Co., Philadelphia.
 BALTIMORE, 450 tons, warehouse, Consolidated Gas, Electric Light & Power Co., to Dietrich Brothers and not Jones & Laughlin Steel Corporation, as stated last week.
 CLEVELAND, 1700 tons, sewage disposal plant, to Bourne-Fuller Co.
 GARY, IND., 250 tons, Horace Mann Public School, to Joseph T. Ryerson & Son.
 CHICAGO, 150 tons, Ebinger Public School, to Kalman Steel Co.
 CHICAGO, 230 tons of rail steel, Leland Hotel, to Calumet Steel Co.
 CHICAGO, 230 tons of rail steel, hotel at Gordon Terrace and Clarendon Avenue, to Calumet Steel Co.
 COOK COUNTY, ILL., 100 tons of rail steel for road work, to Calumet Steel Co.
 ST. LOUIS, 200 tons, Gerst Packing Co., factory, to Laclede Steel Co.
 HELENA, ARK., 250 tons, Helena River & Rail Terminals, to Laclede Steel Co.
 MARE ISLAND, CAL., 500 tons, United States Navy hospital, to unnamed San Francisco jobber.
 SAN FRANCISCO, 200 tons, automobile sales building, Ellis Street and Van Ness Avenue, to Cahill Brothers.
 PORTLAND, ORE., 205 tons, four bridges for Oregon Highway Commission, to unnamed firm.
 LOS ANGELES, 320 tons, City Hall foundations, to American System of Reinforcing.
 SANTA BARBARA, CAL., 110 tons, Elks' Club, to Los Angeles Iron & Steel Co.

HOLLYWOOD, CAL., 176 tons, Playhouse, to George L. Eastman Co., Los Angeles.
 AUBERRY, CAL., 325 tons, Southern California Edison Co., to, Truscon Steel Co.

Reinforcing Bars Pending

Inquiries for reinforcing steel bars include the following:

NEWARK, 270 tons, Beth Israel Hospital, general contract awarded to Starrett Brothers, New York.
 MOBILE, ALA., 2000 tons, harbor work, general contract awarded to Doullut & Erwin, Inc., New Orleans.
 CHICAGO, 230 tons, Prussing Public School; general contractor, Simpson Construction Co.
 CHICAGO, 1300 tons, apartment at 2432 Lakeview Avenue; Rissman & Hirschfeld, architects.
 CHICAGO, 170 tons, Garfield Park Hospital; Schmidt, Gordon & Erickson, architects.
 CHICAGO, 1300 tons, Carlson apartment building, Sheridan Road and Grace Street; R. S. DeGolyer & Co., architects.
 URBANA, ILL., tonnage not stated, architectural building for the University of Illinois.
 CHICAGO, estimate being prepared, building for the Fleischmann Yeast Co.
 CHICAGO, tonnage being estimated, apartment building at 1450 Lake Shore Drive; Childs & Smith, architects.
 SANDPOINT, IDAHO, 163 tons, Commissioner of Public Works, State of Idaho, at Sandpoint.

Court Asked to Stop Operations of Eastern Steel Co.

No decision has been reached by the United States District Court of Philadelphia on the application of Luria Brothers & Co., Inc., Reading, Pa., to forbid further operations of the Eastern Steel Co.'s plant at Pottsville, Pa., under the receivership. Edward L. Herndon, the receiver, who has been operating the plant for the past few months, opposed the granting of the petition.

Luria Brothers & Co. are scrap dealers and have a claim against the Eastern Steel Co. totaling about \$100,000 for steel scrap. It is the claim of the scrap company that the company is not being operated at a profit and that creditors' interests are suffering.

Mr. Herndon told the court that profits in the four months he has been in charge of the plant have totaled \$1,100, and that the company has twice the volume of business on its books it had early in January.

The Government has a claim against the company for \$634,000 for extra taxes covering the years 1917 to 1920, inclusive.

San Francisco

Southern Pacific Equipment Co. Places 3500 Tons of Steel

SAN FRANCISCO, June 5 (*By Air Mail*).—Larger buying in the heavier forms of steel has been the chief feature of the week. The Southern Pacific Equipment Co. has awarded 3500 tons of shapes and plates to Eastern and Pacific Coast mills, and 180 tons of rivets to a Pacific Coast producer. In the aggregate, pending business is substantial, but individually, inquiries are relatively small. In plates and shapes, especially the former, the softness of prices is more pronounced despite the apparent unwillingness of some of the larger producers to meet competitive quotations.

Pig Iron.—A local importer has a shipment of German foundry iron en route, which is being offered at about \$23.50, duty paid, f.o.b. cars San Francisco. Forward buying is comparatively light at present. Current sales, for the most part, are small.

Shapes.—Fabricated bookings for the week total 1002 tons; fresh inquiries call for 1286 tons. The largest individual letting, 425 tons, for a civic stadium at Portland, Ore., was taken by Poole & McGonigle, Portland. The Southern Pacific Equipment Co., San Francisco, has placed 2334 tons of shapes and plates with Eastern mills and 1166 tons with Pacific Coast mills. This material will be used for car construction. Bids have been rejected on 1000 tons for a pier in Honolulu, and new bids are expected to be called shortly. A Y. M. C. A. building in Honolulu is being figured and will require about 175 tons. Eastern mills continue to quote plain material at 2.30c. to 2.35c., c.i.f. Coast ports, although a desirable tonnage probably could be placed at 2.25c.

Plates.—While 2.25c. to 2.30c., c.i.f. Coast ports, is being asked by the principal producers, business is known to have been closed at 2.20c. The Lemon Grove & Spring Valley Irrigation District, La Mesa, Cal., has awarded about 800 tons to the Los Angeles Mfg. Co., and the Nevada County Irrigation District, Grass Valley, Cal., has placed 900 tons with the Western Pipe & Steel Co., for pipe lines. The Moore Dry Dock Co., Oakland, Cal., has taken 325 tons of plates and shapes for drum gates for the Pacific Gas & Electric Co. Pitt River plant No. 4 at Mount Shasta, Cal. No fresh inquiries of importance have come into the market.

Bars.—Reinforcing bar lettings call for 1836 tons. Most of the awards were made in southern California. The local carpenters' strike is still in progress, and continues to retard construction work in San Francisco and the East Bay cities. However, the largest individual job of the week, 500 tons for a United States Navy hospital on Mare Island, in San Francisco Bay, was taken by a local jobber. Reinforcing bar jobbers quote as follows: 2.80c. base per lb. on lots of 250 tons; 2.95c. base per lb. on carload lots, and 3.20c. base on less than carload lots.

Bolts and Rivets.—The Southern Pacific Equipment Co., San Francisco, has awarded 180 tons of rivets to a Pacific Coast mill, and is in the market for about 70 tons of carriage and machine bolts and a small quantity of lag screws. The Steel Tank & Pipe Co., Berkeley, Cal., is inquiring for 230 tons of rivets.

Warehouse Prices, f.o.b. San Francisco

	Base per Lb.
Plates and structural shapes	3.30c.
Mild steel bars and small angles	3.30c.
Small channels and tees, ¼-in. to 2¼-in.	3.90c.
Spring steel, ¼-in. and thicker	6.30c.
No. 28 black sheets	4.75c.
No. 10 blue annealed sheets	3.75c.
No. 28 galvanized sheets	6.00c.
Common wire nails, base per keg	\$3.50
Cement coated nails, base per keg	3.00

Warehouse Business.—Little forward buying is being done, and current sales are somewhat sluggish, a condition which jobbers attribute, in part, to the Memorial Day holiday. Stocks, while not large, are considered adequate. While quotations are unchanged, price concessions are not uncommon.

Cast Iron Pipe.—New business is slow in coming into the market. The cities of Alhambra and South Pasadena, Cal., will close bids on June 14 and 23 respectively on 136 and 103 tons. The Lemon Grove & Spring Valley Irrigation District, La Mesa, Cal., has awarded 236 tons, and the city of Yakima, Wash., has let 100 tons to the United States Cast Iron Pipe & Foundry Co. The city of Chandler, Ariz., has placed 468 tons through Fisher & McCall, general contractors, Santa Monica, Cal. Quotations are unchanged at \$50 to \$52 base, water shipment, San Francisco.

Steel Pipe.—The city of Los Angeles is in the market for 236 tons of Matheson-joint steel pipe, which it requires under Specification 793-B. Several small inquiries have come up during the week, but most of them call for less than 100 tons.

Coke.—The Southern Pacific Co. is taking bids on 500 tons of coke. Several small sales have been made recently by local importers. Quotations on English coke have been withdrawn. A shipment of German by-product is en route, and is being quoted at about \$12 to \$12.50 per ton at incoming dock.

Old Material.—Buying is sluggish although inquiry is fair. No. 1 heavy melting steel is quoted at \$10 to \$10.50 per gross ton, delivered to consumers' yards.

St. Louis

Rate Changes Mean Higher Delivered Prices on Steel—3500-Ton Iron Sale

ST. LOUIS, June 8.—The principal pig iron transaction of the week was the sale of 3500 tons of foundry iron by the St. Louis Coke & Iron Corporation to a melter in the district for shipment through the second half. The same maker made other sales totaling 1500 tons, mostly for third quarter shipment, the largest lot being 300 tons and the remainder ranging from a carload to 100 tons. A leading Southern maker has sold 300 tons in small lots for water-and-rail shipment. Melters in the district are proceeding cautiously in buying pig iron because of their own small order files.

We quote delivered consumers' yards, St. Louis, as follows, having added to furnace prices, \$2.16 freight from Chicago, \$4.42 from Birmingham, all rail, and 81c. average switching charge from Granite City:

Northern fdy., sil. 1.75 to 2.25	\$22.66 to \$23.16
Northern malleable, sil. 1.75 to 2.25	22.66 to 23.16
Basic	23.16 to 24.16
Southern fdy., sil. 1.75 to 2.25	24.92 to 26.42
Granite City iron, sil. 1.75 to 2.25	22.81 to 23.31

Coke.—Consumers are showing more interest in foundry coke, with many annual contracts expiring July 1 and some good-size contracts in the making. Dealers in domestic coke have about completed necessary repairs in their yards, and are preparing to take on stocks.

Finished Iron and Steel.—The equalizing of freight rates on iron and steel, by increasing the Chicago rate to St. Louis from 17½c. to 22c. and reducing the Pittsburgh rate to St. Louis from 43c. to 40½c., is expected to mean higher prices to the consumer, as it is likely that the Eastern mills will quote on the basis of the higher delivered prices from Chicago rather than precipitate a price war which might follow concessions to the consumer. The equalization became effective May 29, as a result of the Jones & Laughlin case. Sales of finished iron and steel during May were reported to be heavier than in April and ahead of May, 1925. Warehouse business during May is reported to be about on a par with that of April. During the first three weeks of the month bookings were heavy and in the last week very light. Tank manufacturers in this section are

busy, while most of the structural fabricators report dull business.

Old Material.—Only one price change was made in the old material list this week, steel angle bars being reduced 75c. a ton to bring them down to a par with heavy melting steel. The market is a bit stronger, due to some buying by dealers. Consumers, however, are buying virtually nothing, and reduced operations are reported on account of a lack of new orders. Relaying rails are fairly active, 80 to 90-lb. and 30 to 40-lb. sections being most in demand. Railroad lists include: Santa Fe, 8150 tons; Missouri Pacific, 4000 tons; Pennsylvania, 3000 tons; Texas & Pacific, 1750 tons; Mobile & Ohio, 1300 tons; Chicago, Burlington & Quincy, 880 tons of wheels; Chicago & Eastern Illinois, 850 tons; Kansas City Southern, 500 tons; Pullman Co., 200 tons; Wabash, 160 tons.

We quote dealers' prices f.o.b. consumers' works, St. Louis industrial district and dealers' yards, as follows:

Per Gross Ton	
Iron rails	\$11.00 to \$11.50
Rails for rolling	14.75 to 15.00
Steel rails less than 3 ft.	15.50 to 16.00
Relaying rails, 60 lb. and under	24.00 to 25.00
Relaying rails, 70 lb. and over	30.00 to 31.00
Cast iron car wheels	15.50 to 16.00
Heavy melting steel	12.00 to 12.50
Heavy shoveling steel	12.00 to 12.50
Frogs, switches and guards cut apart	13.50 to 14.00
Railroad springs	16.00 to 16.50
Heavy axle and tire turnings	8.50 to 9.00
No. 1 locomotive tires	16.00 to 16.50

Per Net Ton	
Steel angle bars	10.75 to 11.25
Steel car axles	16.75 to 17.25
Iron car axles	20.50 to 21.00
Wrought iron bars and transoms	17.75 to 18.25
No. 1 railroad wrought	10.00 to 10.50
No. 2 railroad wrought	11.00 to 11.25
Cast iron borings	8.50 to 9.00
No. 1 busheling	9.25 to 9.75
No. 1 railroad cast	10.00 to 10.50
No. 1 machinery cast	16.50 to 17.00
Railroad malleable	13.00 to 13.50
Machine shop turnings	5.75 to 6.25
Bundled sheets	6.50 to 7.00

Buffalo

More Demand for Pig Iron—Railroad Scrap Brings High Prices

BUFFALO, June 8.—Pig iron inquiry is more active, totaling 10,000 tons and including individual lots ranging from 1000 tons to 3000 tons. Consumers are beginning to show interest in third quarter iron, and some are asking for figures for their requirements on the entire period, which is a departure from the recent policy of hand-to-mouth buying. Prices are firm at \$20, base furnace. Several propositions to drop the dif-

We quote prices per gross ton, f.o.b. Buffalo, as follows:

No. 2 plain fdy., sil. 1.75 to 2.25	\$20.00
No. 2X foundry, sil. 2.25 to 2.75	20.50
No. 1X foundry, sil. 2.75 to 3.25	21.50
Malleable, sil. up to 2.25	20.00
Basic	19.00
Lake Superior charcoal	29.28

Warehouse Prices, f.o.b. St. Louis

	Base per Lb.
Plates and structural shapes	3.25c.
Bars, mild steel or iron	3.15c.
Cold-finished rounds, shafting and screw stock	3.75c.
No. 23 black sheets	4.60c.
No. 10 blue annealed sheets	3.60c.
No. 28 galvanized sheets	5.70c.
Black corrugated sheets	4.65c.
Galvanized corrugated sheets	5.75c.
Structural rivets	3.65c.
Boiler rivets	3.85c.
Per Cent Off List	
Tank rivets, $\frac{1}{2}$ -in. and smaller	70
Machine bolts	50 and 5
Carriage bolts	47½
Lag screws	55 and 5
Hot-pressed nuts, square, blank or tapped	3.25c. off per lb.
Hot-pressed nuts, hexagons, blank or tapped	3.75c. off per lb.

ferentials on No. 1X and No. 2X foundry iron have been rejected.

Finished Iron and Steel.—Bars are being held firmly at 2.265c. and shapes at 2.165c. to 2.265c., Buffalo. Plates are steady at 2.165c., Buffalo. The sheet market is variable, with 3.25c., base Pittsburgh, being quoted on black, while 3.15c. is reported to have been done on good tonnages. Structural business is fair, with one good-sized project placed—the Mercy Hospital, Buffalo, requiring 700 tons. The first unit of the Buffalo harbor improvement, which calls for 3500 tons of sheet piling, is still being held up but is expected to be placed soon. The Neisner Building at Rochester, 250 tons, has been placed.

Warehouse Prices, f.o.b. Buffalo

	Base per Lb.
Plates and structural shapes	3.40c.
Mild steel bars	3.30c.
Cold-finished shapes	4.45c.
Rounds	3.95c.
No. 28 black sheets	4.60c.
No. 10 blue annealed sheets	3.90c.
No. 28 galvanized sheets	5.75c.
Common wire nails, base per keg	\$3.90
Black wire, base per 100 lb.	3.90

Old Material.—There has been little change in prices. One of the mills which has been offering \$14.50 for heavy melting steel in small lots, has reduced this figure to \$14. Railroad offerings of melting steel which closed recently brought good prices, one of them going at \$15.75, Buffalo points. Dealers are being compelled to pay these prices to complete old orders for selected material. It is doubtful if mills, however, would now pay more than \$15.50 for selected material, except for a large tonnage. Some unfilled orders for railroad malleable are out, and \$19.50 has been paid for small tonnages to complete orders. The last sale of shoveling turnings and borings for blast furnace use was made at \$12.

We quote prices per gross ton, f.o.b. Buffalo, as follows:

Heavy melting steel	\$14.50 to \$14.75
Selected No. 1 heavy melting steel	15.50 to 15.75
Low phosphorus	17.50 to 18.00
No. 1 railroad wrought	14.00 to 14.50
Car wheels	17.00 to 17.50
Machine shop turnings	10.00 to 10.50
Mixed borings and turnings	11.50 to 12.00
Cast iron borings	11.50 to 12.00
No. 1 busheling	14.50 to 14.75
Stove plate	14.00 to 14.50
Grate bars	13.00 to 13.50
Hand-bundled sheets	10.00 to 10.50
Hydraulic compressed	14.50 to 14.75
No. 1 machinery cast	16.00 to 16.25
Railroad malleable	16.50 to 17.00
Iron axles	24.00 to 25.00
Steel axles	16.00 to 16.50
Drop forge flashings	12.75 to 13.25

Toronto

Canadian Pig Iron Prices Decline \$1.05 Per Ton—Minor Changes in Scrap

TORONTO, ONT., June 7.—The softening in prices which has affected United States markets for some weeks past, together with the falling off in demand here, has been reflected in Canadian pig iron prices, with the result that prices have been reduced \$1.05 per gross ton, effective both in the Toronto and Montreal markets. Pig iron prices at Toronto are as follows: No. 1 foundry (2.25 to 2.75 per cent silicon), \$25.80; malleable, \$25.80; No. 2 foundry (1.75 to 2.25 per cent silicon), \$25.30. As a result of a difference in freight charges between Toronto and Montreal, prices in the latter city are \$2.40 per ton higher, as follows: No. 1 foundry and malleable, \$28.20; No. 2, \$27.70. The great majority of melters are covered for this quarter and are not prepared to enter into contracts past the end of this month, although a few have bought for third quarter. Specifications against contracts are in fair volume. The consumption of basic iron is holding at a high level as a result of close to capacity operations by mills in this country. Foundries, however, are running at between 35 and 50 per cent capacity. The

reduction in the tariff on automobiles and automobile parts, as announced in the Robb budget of April last, has had a direct bearing on the Canadian pig iron market. Those foundries engaged in the making of parts have ceased pig iron buying except for immediate needs, and in nearly all cases refuse to order on other than a hand-to-mouth basis, since their future prospects under existing conditions are too uncertain.

Old Material.—The iron and steel scrap market continues dull, with sales and inquiries spasmodic. A few minor changes have been made in dealers' buying prices, but these have not been extensive enough to have a bearing on the market. Canadian dealers' buying prices are as follows:

Per Gross Ton	Toronto	Montreal
Steel turnings	\$9.50	\$6.50
Machine shop turnings	9.50	6.50
Wrought pipe	6.50	6.00
Rails	11.00	8.50
No. 1 wrought scrap	11.00	13.00
Heavy melting steel	10.50	8.00
Steel axles	16.00	17.00
Axles, wrought iron	18.00	19.00
Per Net Ton		
Standard car wheels	16.00	16.00
Malleable scrap	13.00	12.00
Stove plate	11.00	12.00
No. 1 machinery cast	16.00	18.00

Cincinnati

Low Prices Bring Out Pig Iron Buying— Jobbers Purchase Steel

CINCINNATI, June 8.—With pig iron sales the largest in many weeks and with inquiries indicative of further purchases on a considerable scale, the market is showing signs of increased activity. Many buyers are taking advantage of the low prices prevalent in this territory to cover their last-half requirements. The keen competition between Lake furnace interests and southern Ohio producers, which has resulted in quotations falling to the lowest point of the past year, has been evidenced in recent transactions. A northern Ohio producer is reported to have taken 750 tons of foundry iron for a southwestern Ohio plant at approximately \$18.50, base furnace, while a Cleveland seller will supply a Hamilton, Ohio, foundry with 1000 tons at \$18, base furnace. A local dealer has sold 4000 tons of Northern foundry iron to two melters up-State. Meanwhile, one furnace in the Ironton district is booking orders at \$19, base furnace. Another producer, who is holding at \$19.50, has failed to secure a satisfactory tonnage at that figure. The largest inquiry before the trade calls for 7000 tons of foundry for the Louisville plant of the Standard Sanitary Mfg. Co. The Norfolk & Western Railway, Roanoke, Va., is in the market for 1500 tons of foundry, and a Louisville melter is asking for 750 tons. While Alabama iron is being quoted at \$22, base Birmingham, persistent reports are current that it can be obtained at \$21. However, there has been no tangible evidence to substantiate the reports. Tennessee iron is quoted at \$20.50, base Birmingham,

and the sole active furnace in that State has a comfortable order book at the moment. Sales of Jackson County silvery iron have been limited to single carloads at the regular schedule, which calls for \$27.50, furnace, for 8 per cent.

Based on freight rates of \$3.69 from Birmingham and \$1.89 from Ironton, we quote f.o.b. Cincinnati:

Alabama fdy., sil. 1.75 to 2.25	
(base)	\$24.69 to \$25.69
Alabama fdy., sil. 2.25 to 2.75	26.19
Tennessee fdy., sil. 1.75 to 2.25	24.19
Southern Ohio silvery, 8 per cent	30.39
So. Ohio fdy., sil. 1.75 to 2.25	\$20.89 to 21.39
So. Ohio malleable	20.89 to 21.39

Finished Material.—Bookings in the past week were satisfactory in the aggregate. While there is little evidence of buying on a large scale, there is a steady flow of small orders from widely diversified sources. The jobbing trade has been purchasing material in larger quantities and has been an important factor in strengthening the local market. There has been a better demand for bars, with 2c., base Pittsburgh, the prevailing price. The most beneficial effect of the recent advance in bars has been the elimination of the price of 1.90c. Specifications and orders for structural shapes have been moderate in volume. Plain material is steady at 1.90c., base Pittsburgh. Tank plates are also selling at that price. The gradual decline in sheet prices continued during the past week. Black sheets are available at 3.10c. to 3.15c., base Pittsburgh, and those sellers who persist in quoting higher are unable to secure business. Galvanized sheets are being sold at 4.25c. to 4.30c., base Pittsburgh, but consumers are showing little interest. Sales of blue annealed sheets have been consistently good, with prices firm at 2.40c., base Pittsburgh. It is reported, but not confirmed, that Ironton producers of wire goods have increased their price on nails shipped by barge to Cincinnati and Louisville. Common wire nails are selling at \$2.65 per keg, Ironton or Pittsburgh, and plain wire at \$2.50 per 100 lb., Ironton or Pittsburgh.

Reinforcing Bars.—While several attractive projects are expected to materialize in the near future, the market is quiet for the moment. New billet bars nominally are quoted at 2c., Cleveland, and rail steel bars at 1.90c., mill.

Warehouse Business.—A consistent demand for all products resulted in local jobbers moving a substantial tonnage in the past week. The improvement in business is reflected particularly in structural steel and bars. Prices are steady and unchanged.

Coke.—Despite the fact that one producer in the Portsmouth-Ironton district is soliciting business on by-product foundry coke at \$7.50, ovens, two other sellers have decided to maintain their present price of \$8, ovens, during this month.

Based on freight rates of \$2.14 from Ashland, Ky., \$3.53 from Connellsville, and \$2.59 from Wise County ovens and New River ovens, we quote f.o.b. Cincinnati: Connellsville foundry, \$7.53 to \$9.53; Wise County foundry, \$6.84 to \$7.59; New River foundry, \$9.59 to \$10.09; by-product foundry, \$9.64 to \$10.14.

Old Material.—Mills in this territory are taking limited tonnages, but are not interested in fresh purchases. Foundry grades are moving sluggishly. In the absence of activity on an extended scale, the prices quoted below are merely nominal.

We quote dealers' buying prices, f.o.b. cars, Cincinnati:

Warehouse Prices, f.o.b. Cincinnati	
	Base per Lb.
Plates and structural shapes	3.40c.
Bars, mild steel or iron	3.30c.
Reinforcing bars	3.30c.
Hoops	4.00c. to 4.25c.
Ban-ls	3.95c.
Cold-finished rounds and hexagons	3.85c.
Squares	4.35c.
Open-hearth spring steel	4.75c. to 5.00c.
No. 28 black sheets	4.10c. to 4.30c.
No. 10 blue annealed sheets	3.60c.
No. 28 galvanized sheets	5.25c. to 5.40c.
Structural rivets	3.75c.
Small rivets .....	.65 per cent off list
No. 9 annealed wire, per 100 lb.	\$3.00
Common wire nails, base per keg.	2.95
Cement coated nails, base per 100-lb. keg.	3.15
Chain, per 100 lb.	7.55
Net per 100 Ft.	
Lap welded steel boiler tubes, 2-in.	\$18.00
4-in.	38.00
Seamless steel boiler tubes, 2-in.	19.00
4-in.	39.00

Per Gross Ton	
Heavy melting steel	\$11.00 to \$11.50
Scrap rails for melting	11.50 to 12.00
Short rails	16.50 to 17.00
Relaying rails	27.00 to 27.50
Rails for rolling	13.00 to 13.50
Old car wheels	12.50 to 13.00
No. 1 locomotive tires	16.50 to 17.00
Railroad malleable	15.00 to 15.50
Agricultural malleable	13.50 to 14.00
Loose sheet clippings	6.50 to 7.00
Champion bundled sheets	8.50 to 9.00
Per Net Ton	
Cast iron borings	6.50 to 7.00
Machine shop turnings	6.00 to 6.50
No. 1 machinery cast	17.00 to 18.00
No. 1 railroad cast	13.50 to 14.00
Iron axles	20.00 to 20.50
No. 1 railroad wrought	8.50 to 9.00
Pipes and flues	7.00 to 7.50
No. 1 busheling	8.50 to 9.00
Mixed busheling	6.50 to 7.00
Burnt cast	6.50 to 7.00
Stove plate	8.50 to 9.00
Brake shoes	9.00 to 9.50

Boston

Railroad Cuts New England Rates on Pig Iron—Iron Imports Decline

BOSTON, June 8.—Current pig iron sales are in small lots and mostly the result of solicitation. A Springfield, Mass., foundry's inquiry for 400 tons is the largest one in the market. A majority of foundries still have enough iron due them from furnaces to last into July or longer at the present rate of melt and are buying only for mixture purposes or when iron is offered at what is considered a cheap price. Most of the textile machinery makers have enough iron on hand and due to last well into the last quarter. Sales the past week were largely of Indian iron at \$23, on dock duty paid, for No. 1X, and \$22 for lower silicon grades; Buffalo iron at \$20, base furnace; and eastern New York State iron at prices equal to or a shade under the delivered prices from Buffalo. The Mystic Iron Works has taken a number of orders for September delivery, among them some No. 2X foundry, which is reported to have brought \$21.50, Everett. The New York, New Haven & Hartford Railroad has proposed an increase in freight rates on pig iron from Boston to certain New England points. It is proposed to raise the rate to Worcester from \$1.89 a ton to \$2.30; to Westfield, from \$2.65 to \$3.30; and to Hartford, from \$2.65 to \$2.90. In contrast, the Boston & Albany Railroad, effective July 1, will cut rates from Everett to some New England points. The rate to Framingham, Mass., is cut from \$1.89 to \$1.39; to Milford, Mass., from \$1.90 to \$1.64; to Oak Street, Mass., from \$2.52 to \$2.27; to Westfield, Mass., from \$2.65 to \$2.39. Rates to Pittsfield and Worcester remain as heretofore, but where no reduction is made, switching charges are included in the rate to some points. These reductions would give the Massachusetts furnace a great advantage over the Buffalo and other New York State stacks. The previous statement that the Mystic Iron Works had purchased and was discharging a cargo of pyrites was in error. The cargo referred to was a high-grade hematite ore shipped from Algeria. The company does not use pyrites.

We quote delivered prices on the basis of the latest sales as follows, having added \$3.65 freight from eastern Pennsylvania, \$4.91 from Buffalo, \$5.92 from Virginia, and \$9.60 from Alabama:

East. Penn., sil. 1.75 to 2.25	\$25.15 to \$25.65
East. Penn., sil. 2.25 to 2.75	25.65 to 26.15
Buffalo, sil. 1.75 to 2.25	24.91
Buffalo, sil. 2.25 to 2.75	25.41
Virginia, sil. 1.75 to 2.25	27.92 to 29.92
Virginia, sil. 2.25 to 2.75	28.42 to 30.42
Alabama, sil. 1.75 to 2.25	28.91 to 31.60
Alabama, sil. 2.25 to 2.75	29.41 to 32.10

Shapes and Plates.—The plate market holds firmly at 1.90c. per lb., base Pittsburgh. Common talk is that the price for third quarter shipments will be 2c. May bookings were generally satisfactory to the mills, and June is starting off well. Shapes are generally quoted at 1.90c. per lb., base Pittsburgh, but the market is not so firm as in plates owing to competition from

imported material, which is available at concessions. Fabricators, as a whole, are booked up for the next three months. Bars are firm at 2c. per lb., base Pittsburgh, with demand fairly active.

Pig Iron Imports.—Local imports of pig iron in May aggregated 3979 tons, the smallest amount for any month since December, 1925, when receipts were 3765 tons. They were made up of 1385 tons of Indian iron, 1344 tons of Belgian and 1250 tons of German. April importations were 6332 tons, and those of May, last year, 6179 tons. Imports for the first five months of 1926 totaled 35,841 tons, contrasted with 40,124 tons for the corresponding period last year. So far this year 6940 tons of Indian iron have been received at Boston, 8651 tons directly from Germany, 3050 tons from England, 100 tons from Scotland, 100 tons from Scandinavia, and the remainder, 17,000 tons, from the Continent.

Coke.—Most New England foundries have contracted for their last half by-product coke requirements. Many of them have signed up for more fuel than they did for the first half. Both the New England Coal & Coke Co. and the Providence Gas Co. are shipping against first half contract specifications on a basis of \$12 a ton, delivered within a \$3.10 freight rate zone. Tonnage being specified is about on a par with that for early May. May shipments were considerably under the peak month of 1926. Some Connellsville district foundry coke is moving into New England on a basis of about \$10 a ton, delivered.

Sheets.—The market for sheets remains quiet, with prices tending downward. Blue annealed are generally held at 2.40c. per lb., base Pittsburgh, but as low as 2.30c. is being quoted. Galvanized sheets are barely steady at 4.30c. per lb., base Pittsburgh, and black at 3.15c.

Old Material.—Somewhat better prices for heavy melting steel in other sections of the country are not reflected here. The top price offered remains \$10.50 a ton on cars. From that level offers range to as low as \$9.60, but actual sales are not below \$10. Business in heavy melting steel and all other materials continues limited. Prices on forged scrap, skeleton and forged flashings are easier. Transactions in pipe have been so small the past week that it is difficult to determine just what a fair price for such material is. The withdrawal of the American Steel & Wire Co., Worcester, Mass., from the market has accentuated the quietness of business. The market for machinery cast is somewhat higher. Dealers, in bidding for material, have found supplies limited.

The following prices are for gross-ton lots delivered consuming points:

Textile cast	\$19.00 to \$19.50
No. 1 machinery cast	18.00 to 19.00
No. 2 machinery cast	16.00 to 17.00
Stove plate	13.00 to 13.50
Railroad malleable	19.00 to 19.50

The following prices are offered per gross-ton lots, f.o.b. Boston rate shipping points:

No. 1 heavy melting steel	\$10.00 to \$10.50
No. 1 railroad wrought	12.00 to 12.50
No. 1 yard wrought	12.00 to 12.50
Wrought pipe (1 in. in diameter, over 2 ft. long)	9.50 to 10.00
Machine shop turnings	8.00 to 8.50
Cast iron borings, chemical	10.00 to 10.50
Cast iron borings, rolling mill	8.00 to 8.50
Blast furnace borings and turnings	8.00 to 8.50
Forged scrap	8.00 to 8.50
Bundled skeleton, long	8.00 to 8.50
Forged flashings	8.00 to 8.50
Bundled cotton ties, long	8.25 to 8.50
Bundled cotton ties, short	8.50 to 9.00
Shafting	15.00 to 15.50
Street car axles	15.00 to 15.50
Rails for rerolling	11.00 to 11.50
Scrap rails	10.00 to 10.50

Warehouse Prices, f.o.b. Boston

	Base per Lb.
Soft steel bars and small shapes	3.265c.
Plats, hot rolled	4.15c.
Reinforcing bars	3.265c. to 3.54c.
Iron bars—	
Refined	3.265c.
Best refined	4.60c.
Wayne	5.50c.
Norway, rounds	6.60c.
Norway, squares and flats	7.10c.
Structural shapes—	
Angles and beams	3.365c.
Tees	3.365c.
Zees	3.465c.
Plates	3.365c.
Spring steel—	
Open-hearth	5.00c. to 10.00c.
Crucible	12.00c.
Tire steel	4.50c. to 4.75c.
Bands	4.015c. to 5.00c.
Hoop steel	5.50c. to 6.00c.
Cold-rolled steel—	
Rounds and hexagons	3.95c.
Squares and flats	4.45c.
Toe calk steel	6.00c.

An interesting pamphlet has been issued by the American Sheet and Tin Plate Co., Pittsburgh, entitled "Copper Steel Resists Corrosion." It is a summary of the conclusions of various scientists, made up of quotations from various papers and discussions on the question of the relative merits of copper-bearing steel and ingot iron as a resistant to corrosion. Among those quoted are the late D. M. Buck, metallurgical engineer of the company; E. A. and L. T. Richardson, Dr. Samuel L. Hoyt, Dr. William H. Walker, Oliver W. Storey and Dr. M. E. McDonnell.

Birmingham

Iron Reduced to \$21 for Third Quarter— Unchanged for Spot Shipment

BIRMINGHAM, June 8.—Alabama furnaces have reduced prices on foundry pig iron \$1 a ton to \$21, base Birmingham, for third quarter delivery, but are still holding to \$22, base Birmingham, for spot and June shipment. Specifications are running equal to production this month, and hence no surplus iron is being piled on furnace yards. It is estimated that as much tonnage will be melted in the next three months as during the current and first quarters. The North Birmingham furnace of the Tennessee Coal, Iron & Railroad Co. now undergoing repairs will be ready to go into blast before the end of the month when a sister stack will be put out for relining. One of the Bessemer, Ala., furnaces of the Tennessee company had a minor accident the past week which resulted in a brief interruption of production. This stack was on basic iron.

We quote per gross ton, f.o.b. Birmingham district furnaces, as follows:

No. 2 foundry, 1.75 to 2.25 sil...	\$21.00 to \$22.00
No. 1 foundry, 2.25 to 2.75 sil...	21.50 to 22.50
Basic	21.00 to 22.00
Charcoal, warm blast	30.00 to 32.00

Rolled Steel.—Plates have again weakened slightly and are available at from 2c. to 2.10c., base Birmingham. Structural shapes and bars remain unchanged at 2.05c. to 2.15c. and 2.15c. to 2.25c., Birmingham, respectively. The position of the mills is satisfactory, with bookings, operations and shipments well maintained. Rail shipments have been exceptionally heavy.

Coke.—Foundry coke continues to range from \$5.50 to \$6, local ovens, although an occasional spot sale is made at \$6.50. Production is still at a good rate.

Old Material.—Quiet still prevails in the market, although considerable tonnage is still moving which is due on contracts. No new buying is being done by consumers. Users are not the least apprehensive about the supply of scrap, believing it will be found available when needed and that prices will make no appreciable upward change for some time.

We quote per gross ton, f.o.b. Birmingham district yards, as follows:

Cast iron borings, chemical....	\$15.00 to \$16.00
Heavy melting steel	13.00 to 14.00
Railroad wrought	12.00 to 13.00
Steel axles	18.00 to 19.00
Iron axles	18.00 to 19.00
Steel rails	18.00 to 18.50
No. 1 cast	17.00 to 17.50
Tramcar wheels	17.00 to 17.50
Car wheels	16.00 to 16.50
Stove plate	14.00 to 14.50
Machine shop turnings	8.00 to 8.50
Cast iron borings	8.00 to 9.00
Rails for rolling	15.00 to 16.00

Moderate Buying Gives Stronger Tone to Detroit Old Material

DETROIT, June 8.—The buying of small tonnages of waste material has been sufficient to cover releases from the largest producers so far this month. There is evidence that the market has a slightly stronger tone than for some time past. Automotive schedules which are in the making for third quarter production are on a good basis.

The following prices are quoted on a gross ton basis f.o.b. producers' yards, excepting stove plate. No. 1 machinery cast and automobile cast, which are quoted on a net ton basis:

Heavy melting and shoveling steel	\$13.00 to \$13.50
Borings and short turnings	8.50 to 9.00
Long turnings	6.75 to 7.25
No. 1 machinery cast.....	17.00 to 18.00
Automobile cast	21.50 to 22.50
Hydraulic compressed	10.00 to 10.50
Stove plate	13.50 to 14.50
No. 1 bushelling	11.00 to 11.50
Sheet clippings	7.00 to 7.50
Flashings	10.00 to 10.50

CAST IRON PIPE PROTEST

Eastern Makers Object to Examiner's Findings on Freight Rates

WASHINGTON, June 8.—Makers of cast iron pipe at points in eastern Pennsylvania and New Jersey have filed a brief with the Interstate Commerce Commission asking for oral arguments in Docket 17,320, the Somerville Iron Works, et al. The brief criticizes the report of the examiner in this proceeding. The latter held in one paragraph of the syllabus that rates on cast iron pipe and fittings from points in Pennsylvania in the Philadelphia group, and from New Jersey in the Atlantic City group, to points in New England, were not unreasonable or otherwise unlawful. He recommended denial of reparation. The first paragraph of the syllabus held that rates on cast iron soil pipe and fittings in carloads from points in Pennsylvania in the Philadelphia group intermediate to Scottsdale, Pa., and points in Maine in the Bath group, to which rates exceeding \$7.10 per net ton are maintained, are unreasonable. Award of reparation was recommended in this instance.

The brief declares that the examiner in the syllabus has entirely forgotten about the original complainant, Somerville Iron Works, and points out that Somerville is in northern New Jersey and not in the Atlantic City group. The accuracy of various portions of the examiner's report is challenged and it is asserted that the syllabus as well as different findings should be "edited and rewritten."

Decisions of the Interstate Commerce Commission are cited to support the contention that cast iron pipe should take lower rates than other manufactured iron and steel articles.

Sustains Tax on Iron Ore Royalties

WASHINGTON, June 8.—In a decision handed down yesterday, the Supreme Court of the United States sustained the Minnesota tax on income received from iron ore royalties. The Supreme Court thus affirmed a decision of the Federal Court for the district of Minnesota.

Legality of the law was attacked by seven corporations and individuals. They were the Lake Superior Consolidated Iron Mines, Royal Mineral Association, George L. Burrows, Jr., William E. Boenig, Robert E. Whiteside, Merrimac Mining Co. and Helen P. Bardwell.

The Minnesota law provides a tax of 6 per cent on "all royalty received during the calendar year for permission to explore, mine, take out and remove ore from land in this State." Also provision is made for a system of reports and the establishment of the tax as a lien from the time it is payable on the interest of the person or corporation to which the royalty is payable.

Injunction to restrain enforcement of the tax was sought on the ground that it violated both the Federal and Minnesota Constitutions. In rendering the decision the Supreme Court, through Mr. Justice McReynolds, said the tax was upon an interest in land and did not conflict with the Fourteenth Amendment of the Federal Constitution, as claimed.

To Add to Line of Sensitive Drills

The Merit Oil Equipment Co., 6616 Morgan Avenue, Cleveland, manufacturer of the Demco high-speed ball-bearing sensitive drilling machines, has added to its line a machine of $\frac{3}{8}$ -in. capacity with an 8-in. overhang, and in addition will shortly place on the market a complete line with 12-in. overhang. All these sizes will have the same type of spindle construction that is found in the company's $\frac{3}{8}$ -in. and $\frac{1}{2}$ -in. machines in which the spindle bracket or sliding head is eliminated. The spindle is held in position by an adjustable quill bracket which is supported by the frame of the drill head, providing rigid construction. All sizes up to $\frac{3}{8}$ -in. capacity are made in floor and bench types.

NON-FERROUS METAL MARKETS

The Week's Prices	Cents per Pound for Early Delivery						
		June 2	June 3	June 4	June 5	June 7	June 8
Lake copper, New York....		14.00	14.00	14.00	14.00	14.00	14.00
Electrolytic copper, N. Y.*..		13.57½	13.57½	13.55	13.55	13.57½	13.57½
Straits, tin, spot, New York..		59.75	59.50	58.50	...	58.50	58.75
Lead, New York.....		7.65	7.65	7.65	7.65	7.65	7.65
Lead, St. Louis.....		7.47½	7.47½	7.47½	7.47½	7.47½	7.47½
Zinc, New York.....		7.30	7.35	7.32½	7.32½	7.35	7.40
Zinc, St. Louis.....		6.95	7.00	6.97½	6.97½	7.00	7.05

*Refinery quotation; delivered price ¼c. higher.

NEW YORK, June 8.—A decidedly better tone pervades all the markets. Inquiry is improved in all metals except tin, and prices are tending upward.

Copper.—The week opens with more inquiry than in some time. One producer reports at least 10,000,000 lb. before the market. Thus far there has been little change in prices, but the tendency is higher. While some producers still ask 13.87½c., delivered, business is still being done at 13.80c. to 13.85c. It is freely predicted that higher prices will prevail before the end of the week. The export market is stronger, with 13.80c. f.a.s. bid. It develops that the new export association is more of an international organization than was at first supposed, because the Katanga company and some German producers are included. It is the general impression that this association will begin to function about July 1.

Tin.—Due to the fact that recent weeks have been very active in purchases of tin, business in the last week has been light. Estimates place the total at about 1000 tons. The buying referred to has been largely for June, July and August delivery and therefore the buying power of the market is considered as largely spent. The premium on prompt tin has declined sharply and the market is somewhat weaker. Three important factors have contributed to this: A substantial increase in visible supplies, a heavier London market and less demand here. Unless some economic or other cause develops, a stronger market with higher prices is hardly looked for in the near future. Yesterday the market was exceedingly dull and today

it is not much better although there has been more inquiry. Spot Straits tin today was quoted at 58.75c., New York, a fairly sharp decline from last week. London prices also today were lower by about £5 per ton, with spot standard quoted at £261 12s. 6d., future standard at £260 10s. and spot Straits at £270 2s. 6d. The Singapore price today was £265 5s. Arrivals thus far this month have been 3335 tons, with 6479 tons reported afloat.

Lead.—The market is quiet but very steady. A good consuming demand is reported at unchanged prices. The leading interest continues to quote, as its contract price, 7.65c., New York. In the outside market the quotations at St. Louis are 7.45c. to 7.50c.

Zinc.—The improvement noted last week has continued and prime Western zinc for early delivery is higher at 7.05c., St. Louis, or 7.40c., New York. There is a better demand from consumers. London prices are also higher. Possibly one factor in the improvement is the expectation that England will have to buy zinc here a little later because less will be available from Germany. Conditions in the latter country have improved recently, necessitating larger supplies there.

Nickel.—Wholesale lots of ingot nickel are reported at 35c. with shot nickel at 36c. and electrolytic nickel at 39c. per lb.

Antimony.—Demand for Chinese metal has improved, particularly from dealers, and the metal is higher at 11.50c., New York, duty paid, for prompt and future delivery.

Aluminum.—Virgin metal, 98 to 99 per cent pure, is obtainable as ingots at 27c. to 28c. per lb., delivered.

CHICAGO, June 8.—This market is quiet and copper, unchanged in price, is in fair demand. Tin has eased off in an unsettled market in which more is being offered than taken. Lead, zinc and antimony have ad-

Metals from New York Warehouse

Delivered Prices per Lb.	
Tin, Straits pig.....	60.00c. to 61.00c.
Tin, bar.....	63.50c. to 64.00c.
Copper, Lake.....	15.25c.
Copper, electrolytic.....	15.00c.
Copper, casting.....	14.75c.
Zinc, slab.....	7.75c. to 8.25c.
Lead, American pig.....	8.25c. to 8.75c.
Lead, bar.....	10.75c. to 11.75c.
Antimony, Asiatic.....	12.00c. to 13.00c.
Aluminum, No. 1 ingot for remelting (guaranteed over 99 per cent pure).....	30.00c. to 30.50c.
Babbitt metal, commercial grade.....	30.00c. to 35.00c.
Solder, ½ and ⅓ guaranteed.....	39.00c.

Metals from Cleveland Warehouse

Delivered Prices per Lb.	
Tin, Straits pig.....	66.50c.
Tin, bar.....	69.50c.
Copper, Lake.....	15.00c.
Copper, electrolytic.....	15.00c.
Copper, casting.....	14.00c.
Zinc, slab.....	8.50c.
Lead, American pig.....	8.50c. to 9.00c.
Antimony, Asiatic.....	18.50c.
Lead, bar.....	11.00c.
Babbitt metal, medium grade.....	21.50c.
Babbitt metal, high grade.....	70.50c.
Solder, 50-50.....	39.75c.

Rolled Metals from New York or Cleveland Warehouse

Delivered Prices, Base per Lb.	
Sheets—	
High brass.....	18½c. to 19½c.
Copper, hot rolled.....	22½c. to 23½c.
Copper, cold rolled, 14 oz. and heavier, 24½c. to 25½c.	
Seamless Tubes—	
Brass.....	23½c. to 24½c.
Copper.....	24½c. to 25½c.
Brass Tubes.....	26½c. to 27½c.
Brass Rods.....	16½c. to 17½c.

From New York Warehouse

Delivered Prices, Base per Lb.	
Zinc sheets (No. 9), casks.....	12.75c.
Zinc sheets, open.....	13.25c.

Non-Ferrous Rolled Products

Mill prices in brass, bronze and copper products are unchanged. Zinc and lead sheets were reduced about May 1, zinc sheets ½c. per lb. to 11.25c. and lead full sheets ¼c. to 11.50c. No changes have been made since.

List Prices Per Lb. f.o.b. Mill

<i>On Copper and Brass Products, Freight Up to 75c. Per 100 Lb. Allowed on Shipments of 500 Lb. or Over.</i>	
Sheets—	
High brass.....	18.87½c.
Copper, hot rolled.....	22.50c.
Zinc.....	11.25c.
Lead (full sheets).....	11.50c.
Seamless Tubes—	
High brass.....	23.50c.
Copper.....	24.25c.
Rods—	
High brass.....	16.62½c.
Naval brass.....	19.37½c.
Wire—	
Copper.....	15.75c.
High brass.....	19.37½c.
Copper in Rolls.....	21.37½c.
Brass Tubing.....	26.87½c.

Aluminum Products in Ton Lots

The carload freight rate is allowed to destinations east of the Mississippi River and also allowed to St. Louis on shipments to destinations west of that river.

Sheets, 0 to 10 gage, 3 to 30 in. wide....	27.50c.
Tubes, base.....	48.00c.
Machine rods.....	34.00c.

Rolled Metals, f.o.b. Chicago Warehouse

(Prices Cover Trucking to Customers' Doors in City Limits)

Sheets—		Base per Lb.
High brass	.....	18 3/4 c. to 19 1/4 c.
Copper, hot rolled	.....	22 1/2 c.
Copper, cold rolled, 14 oz. and heavier	.....	24 1/2 c.
Zinc	.....	12.00c.
Lead, wide	.....	11.08c.
Seamless Tubes—		
Brass	.....	23 1/4 c. to 25c.
Copper	.....	24 1/4 c. to 25 1/4 c.
Brazed Brass Tubes	.....	26 1/4 c. to 29 1/4 c.
Brass Rods	.....	16 1/2 c.

vanced in price. The old metal market is quiet and prices are steady. We quote, in carload lots, Lake copper, 14.12 1/2 c.; tin, 60c.; lead, 7.65c.; zinc, 7.10c.; in less than carload lots, antimony, 13c. On old metals we quote copper wire, crucible shapes and copper clips, 10.50c.; copper bottoms, 9.50c.; red brass, 9.25c.; yellow brass, 8c.; lead pipe, 6.75c.; zinc, 5c.; pewter, No. 1, 36c.; tin foil, 43.50c.; block tin, 52c.; aluminum, 18c.; all being dealers' prices for less than carload lots.

RAILROAD EQUIPMENT

More Active Buying, with Orders for 3500 Cars and 84 Locomotives

After many weeks of little activity, the railroad equipment demand last week produced orders for about 3500 freight cars and 84 locomotives. This was more than double the number of cars contracted for during the entire month of May. The Baltimore & Ohio and the Central Railroad of New Jersey each ordered 1000 cars and the Delaware, Lackawanna & Western ordered 900. The Illinois Central ordered 50 locomotives and the Santa Fe 25. Details follow:

The Illinois Central has placed an order with the Lima Locomotive Works for 50 locomotives. Twenty additional ordered from the American Locomotive Co. were reported a week ago.

The Chicago, Indianapolis & Louisville has ordered 6 Mikado type locomotives from the American Locomotive Co.

The Delaware, Lackawanna & Western has ordered 400 all-steel hopper cars and 300 box cars from the American Car & Foundry Co. and 200 box cars from the Magor Car Corporation. Two baggage and mail cars were also ordered from the American Car & Foundry Co.

The Minneapolis, St. Paul & Sault Ste. Marie is inquiring for 12 locomotives.

It is reported that the Rock Island has placed 200 underframes with the Bettendorf Co.

The Great Northern is in the market for 2000 box car underframes and 200 flat car underframes.

The Atchison, Topeka & Santa Fe has ordered 15 Mikado type and 10 Santa Fe type locomotives from the Baldwin Locomotive Works.

Of the 32 locomotives ordered by the Louisville & Nashville, mentioned last week, 24 will be built by the American Locomotive Co. and 8 by the Baldwin Locomotive Works.

The Newburgh & South Shore has ordered 2 6-wheel switching locomotives from the Baldwin Locomotive Works.

The Alton & Southern has ordered 1 8-wheel switching locomotive from the American Locomotive Co.

The Chicago, St. Paul, Minneapolis & Omaha is in the market for 8 Mikado type locomotives.

The North American Car Co. has purchased 300 tank cars from the Bethlehem Steel Co.

The Baltimore & Ohio has ordered 1000 all-steel box cars of 50-tons capacity, 500 each being awarded to the Bethlehem Steel Corporation and the Standard Steel Car Co.

The Central Railroad of New Jersey has divided orders for 1000 all-steel box cars as follows: 400 to the Bethlehem Steel Corporation, 400 to the Standard Steel Car Co. and 200 to the American Car & Foundry Co.

The Tennessee Central has ordered 100 steel hopper cars, 100 steel gondola cars, 50 stock and 25 flat cars from the Pressed Steel Car Co.

The Michigan Alkali Co. has ordered 30 air-dump cars from the Western Wheel & Scraper Co.

Old Metals, Per Lb., New York

The buying prices represent what large dealers are paying for miscellaneous lots from the smaller accumulators, and the selling prices are those charged consumers after the metal has been properly prepared for their uses.

	Dealers' Buying Prices	Dealers' Selling Prices
Copper, heavy crucible	11.50c.	13.00c.
Copper, heavy and wire	11.00c.	12.00c.
Copper, light and bottoms	9.50c.	10.75c.
Brass, heavy	7.00c.	8.75c.
Brass, light	6.25c.	7.75c.
Heavy machine composition	8.75c.	10.00c.
No. 1 yellow brass turnings	8.25c.	9.00c.
No. 1 red brass or composition turnings	8.00c.	9.00c.
Lead, heavy	6.50c.	7.00c.
Lead, tea	4.75c.	5.75c.
Zinc	4.00c.	4.75c.
Sheet aluminum	17.00c.	19.00c.
Cast aluminum	17.00c.	19.00c.

Methods of Iron Ore Analysis in Steel Corporation Laboratories

"Methods of the Chemists of the United States Steel Corporation for the Sampling and Analysis of Iron and Manganese Ores" is the title of a pamphlet 6 x 9 in., 148 pages, recently published by the bureau of technical instruction of the Carnegie Steel Co. The price is \$2.

Three times the size of the previous edition, this third edition is outstanding among the various publications of the Steel Corporation chemists dealing with their methods of sampling and analysis. It was three years in the making. Five chief chemists, one from each of the principal producing and consuming districts of the country, were originally appointed on the committee to take up the work. A sixth member was selected as chairman in view of his experience in the handling and grading of ores, and a seventh was chosen as editor. The committee visited works and laboratories in the various districts. Later the information so collected was compiled and the manuscript submitted to each member of the committee for final criticism.

The committee disclaims any purpose of discouraging individual initiative, but believes this work is so representative of the best practice in the Steel Corporation that all who use it will thereby avoid mistakes and fruitless effort.

In much detail are given methods of sampling iron ores from the Lake Superior district—sampling in underground mines and from stock piles, vessel cargoes and train loads. Nearly 100 pages are given up to methods of analysis, this portion of the volume being arranged in four parts. The first deals with the analysis of ordinary iron ores; the second with iron ores containing lead, barium and copper; the third with iron ores containing chromium and nickel, and the fourth with manganese ores. Three methods for the determination of manganese in manganese ores are used by chemists of the Steel Corporation: the zinc oxide permanganate (Volhard's) method, the sodium bismuthate method, and the hydrogen peroxide reduction (Julian's) method. They are regarded as highly accurate and not excelled for high manganese ores. The experience of chemists of the Bethlehem Steel Corporation is also represented in the pamphlet, details being given of their methods of analysis of Mayari ores which contain nickel, chromium and cobalt.

The committee suggests that its work represents long experience and many trials and intimates, for the benefit of those who are attracted by novelty, that "it is merely a matter of discretion to observe a proper respect for this experience before putting a new idea, however promising it may appear, into regular service for sampling or analyzing ores."

Safety in industry, patent office conditions, progress in radio and public works were the chief topics discussed at a meeting of the administrative board of the American Engineering Council, which was held in the clubhouse of the Detroit Engineering Society, Detroit, June 4 and 5.

PERSONAL

Charles F. Palmer, formerly manager Chicago office Pittsburgh Steel Products Co., who was appointed on May 24 general manager of sales Pittsburgh Steel Products Co., with offices at Pittsburgh, as reported in THE IRON AGE of May 27, will take up his new duties on July 1. Mr. Palmer has been in the railroad supply business about 20 years, 12 years in his last connection. Prior to coming to Chicago he was in business in St. Louis, connected in an official capacity with the Frank E. Palmer Supply Co., St. Louis. He was also secretary Faessler Mfg. Co., Moberly, Mo. Two years ago he was appointed manager of railroad sales of the Pittsburgh Steel Products Co., in connection with the managership of the Chicago office. Mr. Palmer is a native of St. Louis.

Louis L. Greenwald, formerly associated with the De Laval Separator Co., has been appointed sales engineer for the Chicago Pump Co., Chicago.

G. S. Ashmun has been appointed general superintendent of the Lakeside Works, Otis Steel Co., Cleveland, succeeding J. Wilson Troupe, resigned. Mr. Ashmun has been connected with the company in various capacities for about ten years.

Alan Jackman has been appointed manager of the Cleveland sales office, E. S. Jackman & Co., Chicago, dealers in tool steel. Mr. Jackman has been connected with his firm in Chicago and St. Louis, and has resided in the latter city.

William P. Chandler, Jr., has resigned his position as special engineer Carnegie Steel Co., effective July 1, to take charge of the open-hearth department of the American Heat Economy Bureau, Inc., 930 Wabash Building, Pittsburgh. Mr. Chandler received his engineering training at Cornell University, graduating with the class of 1910. He entered the steel business that year, at the Clairton Plant of the Carnegie Steel Co. In 1917 he resigned as steam engineer for that company to take care of combustion problems of the Cleveland Furnace Co. In 1918 he became assistant fuel and experimental engineer, Duquesne Works, Carnegie Steel Co., and was appointed engineer for this plant in 1922. During 1924 he was appointed special engineer for the Carnegie Steel Co., in charge of fuel and combustion problems.

Charles L. Baer has been appointed general manager Connellsville Mfg. & Mine Supply Co., Connellsville, Pa., succeeding the late Daniel F. Lepley. Mr. Baer has been with the company 25 years and much of that time was assistant to Mr. Lepley.

Felix Fantus of the Fantus Factory Locating Service, Chicago, is sailing for Europe on July 3. Negotiations are under way for the location of several important European industries in the United States. The Dirigold Corporation of Sweden was placed recently in one of the large units of the Haynes automobile plant at Kokomo, Ind.

L. Gerald Firth has been appointed general manager Firth-Sterling Steel Co., McKeesport, Pa., and R. S. Stevick, works manager. Mr. Firth was formerly works manager and Mr. Stevick his assistant.

George R. Hanks, formerly superintendent and later assistant to the president Taylor-Wharton Iron & Steel Co., High Bridge, N. J., has been elected vice-president, to succeed the late Victor Angerer, who died on May 5.

Charles F. Rand, New York, sails for Germany June 15.

Henry D. Hibbard, Plainfield, N. J., sailed for Europe June 5 and will be abroad three months. For most of the time he will be in France, and later will visit England and Scotland.

Gordon S. Rentschler, vice-president and director National City Bank of New York, has been made a director of the Pratt & Whitney Aircraft Co., Hartford, Conn., as have E. A. Deeds, chairman board of directors Niles-Bement-Pond Co., New York; Charles F. Kettering, vice-president in charge of engineering General Motors Corporation, Detroit, and W. B. Mayo, chief engineer Ford Motor Co., Detroit.

George A. Sagendorph, president Penn Metal Co., Boston, and a director of the Boston Chamber of Commerce, has sailed for Europe.

Joseph W. Jones, formerly assistant superintendent North & Judd Mfg. Co., New Britain, has associated himself with the Trans Lux Picture Screen Corporation, Brooklyn.

Lewis R. Brown, manager transformer sales division, General Electric Co., Pittsfield, Mass., has been made vice-president of the Electric Power Club.

Effective June 1, T. J. Frier has been appointed purchasing agent, Ann Arbor Railroad Co. and Manistique & Lake Superior Railroad Co., with headquarters Railway Exchange Building, St. Louis, taking the place of C. Z. Hughes.

A. G. Ripberger, until recently assistant general superintendent of operations, has been appointed chief engineer United Alloy Steel Corporation, Canton, Ohio, covering all divisions. He will be in charge of all phases of engineering and of the operation and maintenance of all power, steam and gas plants.

Roscoe Seybold, formerly manager of price statistics Westinghouse Electric & Mfg. Co., East Pittsburgh, has been appointed assistant to F. A. Merrick, vice-president and general manager of the company. Mr. Seybold has been with the company since 1907, following his graduation from Purdue University with the degree of bachelor of science in electrical engineering.

J. F. Bycott has been elected treasurer Wheeling Corrugating Co., a subsidiary of the Wheeling Steel Corporation. Mr. Bycott has been identified with the Wheeling Steel Corporation in various capacities, latterly as assistant secretary of the Wheeling Corrugating Co.

J. R. Edwards has been appointed district manager, with headquarters at Houston, Tex., for the Pittsburgh Steel Products Co., a subsidiary of the Pittsburgh Steel Co. In that capacity Mr. Edwards will have charge of the sale and distribution of oil country seamless pipe made by his company. He has been with the Pittsburgh Steel Products Co. for the past five years as special representative. Before that he was identified with the Reading Iron Co. in the sale of tubular products.

Francis Hodgkinson, since 1916 chief engineer South Philadelphia works, Westinghouse Electric & Mfg. Co., has been appointed consulting mechanical engineer for the entire Westinghouse organization. Mr. Hodgkinson's successor is A. D. Hunt, who, however, will have the title of manager of engineering, that of chief engineer having been discontinued with the promotion of Mr. Hodgkinson. Mr. Hodgkinson, it will be recalled, was awarded the Elliot Cresson Gold Medal by the Franklin Institute about a year ago, in recognition of his important part in the development of the steam turbine. He was born in England and educated at the Royal Naval School, at New Cross, London, from which he was graduated in 1882. In

1896, when the Westinghouse Machine Co. secured from C. A. Parsons & Co. the American rights for the manufacture of the Parsons type turbines, Mr. Hodgkinson, who then was with the Parsons company, became connected with the Westinghouse Machine Co., which subsequently became the turbine building section of the Westinghouse Electric & Mfg. Co. Mr. Hunt for more than six years has been manager of steam service, South Philadelphia works. He was born in Tarrytown, N. Y., and was graduated from Cornell University in 1905, with the degree of mechanical engineer. In that year he joined Westinghouse, Church, Kerr & Co. in an engineering capacity, and eventually joined the Westinghouse Electric & Mfg. Co., being assigned to the South Philadelphia works in September, 1919, in the marine service section. On Jan. 1, 1920, he was appointed manager of steam service.

W. A. Forbes, of the United States Steel Corporation staff, New York, sailed for Europe June 9 and will be abroad for two or three months, spending most of the time in Belgium, Germany and France.

George L. Reis, Knoxville, Tenn.; William E. Reis, Pasadena, Cal.; Jared M. B. Reis, New Castle, Pa., and John Reis, Montclair, N. J., were participants in an interesting foursome at the Montclair Golf Club course last week. All four brothers have been long connected with the steel industry and were reared in iron and steel manufacture in the Shenango Valley. George L. Reis retired five years ago from the vice-presidency of the Minnesota Steel Co. William E. Reis was president of the National Steel Co., which became a constituent of the United States Steel Corporation in 1901. Jared Reis for some years was in charge of the coal mining operations of the United States Steel Corporation at Gary, W. Va. John Reis resigned in April as vice-president of the Steel Corporation. The scores in the match at Montclair were 100, 93, 91 and 90.

George A. Maltby, who for the past 17 years has been associated with the M. A. Hanna Co. in Detroit and Toronto, and more recently as resident agent in Buffalo and Eastern territory, in the sale of pig iron for that company, has been elected a director, vice-president and stockholder of Waldo, Egbert & McClain, Inc., Buffalo. This firm has become an important factor in the sale of pig iron, coke, coal and other commodities, and in particular of Wickwire and Tonawanda pig iron. The other directors of the company are: J. H. Bradley, president Pratt & Letchworth Co.; Justus Egbert, first vice-president and treasurer, Waldo, Egbert & McClain; Fred J. Waldo, president Waldo, Egbert & McClain, and Ward A. Wickwire.

Loring G. Calkins, vice-president Waldo, Egbert & McClain, Inc., Buffalo, pig iron, coke, alloys, etc., and manager of the New England territory, has resigned, effective July 1, to become associated with Stone & Webster, Inc., Boston.

J. H. Pluckett has been appointed district sales representative Wheeling Steel Corporation, with headquarters at El Paso, Tex. He has been active for many years in the sale of industrial supplies in that district.

G. P. Mahood, who has been in the general sales offices of the Bethlehem Steel Co. at Bethlehem, has been transferred to the Pittsburgh district sales office and will be attached to the frog, switch and rail division of that office.

S. T. Terry, recently connected with the Chicago office of the La Salle Steel Co., 2243 South Halsted Street, has been transferred to the Hammond, Ind., works of that company.

George E. Thomas has resumed his former connection with Gisholt Machine Co., Madison, Wis., as New England representative, with headquarters at 80 Allendale Road, Hartford, Conn., and Frank M. Nelson has resumed his former position with the Gisholt service department, with headquarters in Worcester, Mass.

John H. Nebel, who for several years past has been a member of the sales department at the home office, is now representative of the company for the eastern half of Wisconsin, with headquarters in Milwaukee.

Francis T. West, who has been Western manager of Watson-Stillman Co., 75 West Street, New York, with headquarters in Chicago, for the past 25 years, has retired. He has been succeeded by J. F. Coyne, with offices at 549 West Washington Boulevard, Chicago. Associated with Mr. Coyne in the handling of the hydraulic machinery and accessory lines are James T. Lee and John O. Clark.

OBITUARY

JOHN H. EUSTACE, vice-president in charge of operation, Peoples Gas Light & Coke Co., Chicago, died on June 4. He had been in the gas business since boyhood and in the service of the Peoples Gas Light & Coke Co. or its predecessors for more than 40 years. He was born on a farm near Keene, N. H., Feb. 15, 1856. At the age of 14 he went to work for the Peoples Gas Light & Coke Co. of Rutland. He went to Chicago in 1885 as assistant superintendent of works for the Consumers Gas, Fuel & Light Co. When the Peoples Gas Light & Coke Co. was formed in 1897, by the consolidation of other Chicago gas companies, Mr. Eustace became assistant chief engineer. From that position he rose to the vice-presidency in 1924.

WILLIAM J. DONALDSON, one of the family owning the Donaldson Iron Co., cast iron pipe manufacturer, Emaus, Pa., and for many years connected with that company, died June 3 in Philadelphia. He was 65 years old.

MURRAY SPRINGER, director of the Sheet Steel Trade Extension Committee of the organization of independent sheet steel mills, with headquarters in Pittsburgh, died suddenly at his home in Chicago on June 2. He was vice-president Crosby-Chicago, advertising agency. He was born at Lisbon, Ohio, 52 years ago, and will be buried there. He is survived by his mother, who lives in Lisbon, his wife and son, Charles W., the latter being Cleveland representative of the Chicago Bridge & Iron Works. Before becoming associated with Crosby-Chicago, eight years ago, as its vice-president, he was with the Armstrong Bureau. Before that, for a number of years, he was with the Butterick Publishing Co. His early experience was with the old Aetna Steel Works, and he was for some years in the steel business.

J. R. McDONALD of the development department of the Stephens-Adamson Mfg. Co., Aurora, Ill., machinist and founder, died on June 2 while playing golf. His death was the result of a heart attack caused by over-exertion. He is survived by a wife and three children.

CHARLES MATTHEWS, president, Matthews Gas Machine Co., 6 East Lake Street, Chicago, died in Chicago on May 19. He was a native of Germany and came to the United States in the late fifties. He was 86 years old.

WILLIAM MCCRAY DRAVO, treasurer, Dravo-Doyle Co., Pittsburgh, died June 4 from acute indigestion. He was born in Pittsburgh Aug. 23, 1868. Before joining the Dravo-Doyle Co. he had been assistant manager, Pittsburgh Window Glass Co. at its Arnold, Pa., plant, and later at the Belle Vernon, Pa., plant. He was a member of the Sons of the American Revolution, and was deeply interested in public charities.

TRACY S. SMITH, vice-president Murray W. Sales & Co., Detroit, manufacturers of sanitary and plumbing supplies, died on May 17.

British Stocks Low and Prices Rise

Six Furnaces in Blast—Continental Business Affected—Japanese Expect Lower Prices After Strike

(By Cable)

LONDON, ENGLAND, June 7.

CLEVELAND pig iron is strong as a result of small stocks and higher quotations. Two furnaces are now in blast on the Northeast coast and four in Scotland. Industry is generally paralyzed, although some works are able to operate a few mills by exchanging fuel supplies with plants which are well stocked.

Dorman, Long & Co. have resumed operation of their Ayrton sheet mills. There is some export inquiry for structural material, and makers are asking 5s. per ton more than the minimum rates. The Clyde shipbuilding output in May was 16 vessels totaling 19,700 tons. Workman, Clark & Co., Ltd., Belfast, has secured the contract for a motor liner from Furness, Withy & Co. for the New York-Bermuda service as well as three vessels for the United Fruit Co., Boston.

Tin plate prices are firm with an increasing demand for stock material. With fuel supplies low, some works are preparing to close their finishing mills when present supplies run out. Galvanized sheets are strong, and with a good volume of inquiry makers are quoting No. 24-gage corrugated in bundles for August-September as the earliest delivery. Black sheets are quiet.

Foreign ore is quiet, and Bilbao Rubio prices are nominal. Sales of Continental material to British traders and consumers have been hampered by the coal strike, but prices are generally firm except on plates and sheets which are subject to keen competition.

British Iron and Steel Industry Suspending—Stocks Being Depleted Bring High Prices

LONDON, ENGLAND, May 27.—Although a fortnight has now passed since the general strike was ended, the dispute in the coal fields is still unsettled, so that the iron and steel industry continues completely disorganized. Iron and steel works have either greatly cur-

tailed operations or have suspended entirely as a result of the fuel situation. During the period of the general strike, furnaces were banked and mills stopped, and in many instances there has been no resumption. In other cases production is carried on as long as fuel supplies last, but if the coal strike is not settled shortly there will be complete stagnation. Meanwhile, buying has been adversely affected, domestic consumers of both pig iron and iron and steel products further limiting their purchases to immediate requirements, while export sales are also retarded. Some stocks of Cleveland iron are left, but these are being exhausted and are commanding higher prices. Prior to the Whitsun holiday furnaces announced an advance of 2s. 6d. a ton on all minimum prices for Cleveland grades, making the new export price on No. 3 g.m.b. £3 15½s. The 6d. rebate to domestic consumers is maintained. Hematite is not under control, but makers have increased prices for East Coast Mixed Numbers to £3 17½s., an advance of 1s. 6d. per ton.

Finished materials have been quiet, but there has been no alteration in the prices of heavy materials, and in products which constitute practically a trade of their own the tone is decidedly firm. Galvanized sheets, while the output is virtually stationary, have advanced to £15 10s. minimum, f.o.b. Black sheets are idle, as the result of practically no Japanese demand. Tin plate prices are strong. There has been a considerable demand for stock tin plate, principally by domestic consumers, and values have been quick to respond. Stock tin plate is now commanding up to 20s. 6d. per base box, but contracts for future delivery bring up to 19s. 9d. per base box, f.o.b. works' port.

Business in the Continental iron and steel markets has been largely dominated by the labor unsettlement here. The coal strike and then the general strike were followed by violent fluctuations in the franc exchange rate. Continental works seem well situated for orders, semi-finished steel in particular being difficult to obtain on earlier than August-September delivery. Consumers in Britain have bought next to nothing in the past two or three weeks, and export markets trading through British houses have also been quiet. Domestic demand

British and Continental European prices per gross ton, except where otherwise stated, f.o.b. makers' works, with American equivalent figured at \$4.86 per £ as follows:

Durham coke, del'd..	£0 18½s.		\$4.50	
Bilbao Rubio ore†...	1 1	to £1 1¼s.	5.16	to \$5.19
Cleveland No. 1 fdy...	3 18	and 3 18½*	18.95	and 19.08*
Cleveland No. 3 fdy...	3 15	and 3 15½*	18.23	and 18.35*
Cleveland No. 4 fdy...	3 14	and 3 14½*	17.93	and 18.10*
Cleveland No. 4 forge	3 12½	and 3 13*	17.62	and 17.74*
Cleveland basic	3 15	and 3 15½*	18.23	and 18.35*
East Coast mixed....	3 17½	to 3 18	18.83	to 18.95
East Coast hematite..	3 16	to 3 16½	18.46	to 18.58
Ferromanganese	15 0		72.90	
*Ferromanganese	14 0		68.04	
Rails, 60 lb. and up...	6 15	to 7 5	32.80	to 35.24
Billets	6 0	to 7 10	29.16	to 36.45
Sheet and tin plate bars, Welsh	6 5		30.38	
Tin plates, base box..	0 19¼	to 1 0½	4.80	to 4.98
Black sheets, Japanese specifications	13 10	to 14 0	65.60	to 68.04
C. per Lb.				
Ship plates	7 0	to 7 10	1.52	to 1.62
Boiler plates	9 0	to 11 0	1.95	to 2.39
Tees	7 5	to 7 15	1.57	to 1.68
Channels	6 10	to 7 0	1.41	to 1.51
Beams	6 5	to 6 15	1.35	to 1.46
Round bars, ¾ to 3 in.	7 12½	to 8 2½	1.65	to 1.77
Steel hoops	10 10	and 11 0*	2.28	and 2.39*
Black sheets, 24 gage	10 15	to 11 0	3.41	to 3.47
Galv. sheets, 24 gage.	15 15	to 16 0	3.36	to 3.41
Cold rolled steel strip, 20 gage	18 0		3.91	

*Export price.

†Ex-ship, Tees, nominal.

Continental Prices, All F. O. B. Channel Ports

Foundry pig iron:(a)				
Belgium	£3 7s.	to £3 8s.	\$16.28	to \$16.52
France	3 7	to 3 8	16.28	to 16.52
Luxemburg	3 7	to 3 8	16.28	to 16.52
Basic pig iron:(a)				
Belgium	2 18	to 2 19	14.09	to 14.34
France	2 18	to 2 19	14.09	to 14.34
Luxemburg	2 18	to 2 19	14.09	to 14.34
Coke	0 18		4.37	
Billets:				
Belgium	4 5	to 4 7	20.65	to 21.14
France	4 5	to 4 7	20.65	to 21.14
Merchant bars:				
Belgium	4 16	to 5 0	1.05	to 1.08
Luxemburg	4 16	to 5 0	1.05	to 1.08
France	4 16	to 5 0	1.05	to 1.08
Joists (beams):				
Belgium	4 14	to 4 15	1.03	to 1.04
Luxemburg	4 14	to 4 15	1.03	to 1.04
France	4 14	to 4 15	1.03	to 1.04
Angles:				
Belgium	5 2	to 5 4	1.12	to 1.15
¾-in. plates:				
Belgium	5 13½	to 5 17	1.24	to 1.29
Germany	5 17	to 6 1	1.29	to 1.33
¾-in. ship plates:				
Belgium	5 1	to 5 7	1.11	to 1.16
Luxemburg	5 1	to 5 7	1.11	to 1.16
Sheets, heavy:				
Belgium	6 3	to 6 4	1.35	to 1.37
Germany	6 3	to 6 4	1.35	to 1.37

(a) Nominal.

on the Continent, however, seems to continue at a steady rate. The constitution of the European Rail Makers' Association seems to be an accomplished fact, although reliable information is difficult to secure. Little progress seems to have been made in the negotiations for the proposed International Raw Steel Syndicate.

LUXEMBURG SEEKS ORDERS

**Exports to China and Japan Continue Sizable
but British Trade Affected by Strike
—Pig Iron Firm**

LUXEMBURG, May 20.—Fluctuation of the Belgian franc has proved an obstacle to the booking of new business by Luxemburg producers, so that the active operation of April, based on previous contracting, was not maintained in May, and a gradual softening of prices has appeared in the past few weeks. Part of this quietness is attributed to the British strike, which has temporarily curtailed British buying on the Continent.

Export business with the Far East, however, is continuing on a satisfactory scale despite the competition of domestic producers in Japan and the unsettlement of the political situation in China. The French mills are apparently the most active of all European steel producers, and those Luxemburg mills which are included in French mill combinations are benefiting from this, except that since the end of April export prices quoted in pounds sterling have been slowly declining.

Wages in Luxemburg show an upward tendency. The Acieries Reunies de Burbach-Eich-Dudelange have advanced wages, the increase being retroactive to May

11. The Société des Hauts Fourneaux et Acieries de Differdange has announced an increase of 2 fr. to 3 fr., effective May 25.

Evidently unaffected by the depressed conditions in the steel market, foundry pig iron has been increased to 500 Belgian francs per ton for domestic delivery, the export price continuing unchanged at £3 6s. (\$16.04) per metric ton, f.o.b. Antwerp. The rise in the domestic price was largely to offset a further depreciation of the franc.

Termination of the British general strike reacted favorably on the semi-finished steel market, but prices, although firmer, are unchanged at £3 7s. to £3 8s. (\$16.28 to \$16.50) per ton, Antwerp, for blooms, £4 4s. to £4 5s. (\$20.40 to \$20.65) per ton, Antwerp, for billets, and £4 7s. to £4 8s. (\$21.14 to \$21.38) per ton, Antwerp, for slabs.

The finished material market is still unsteady. Beams are quoted at £4 12s. to £4 13s. (\$22.35 to \$22.50) per ton, f.o.b., Antwerp, but no strength is evident. Merchant bars are held at £4 15s. to £4 16s. (\$23.08 to \$23.33) per ton, f.o.b. Antwerp. Rails are quiet at £5 17s. 6d (\$28.55) per ton for shipment to European consumers, and £6 (\$29.16) per metric ton, f.o.b. Antwerp, for other world markets. It is believed that when the European Rail Makers' Association is officially announced as operative, more business will develop.

The wire rod market is active and the price quite firm at £5 11s. to £5 13s. (\$26.97 to \$27.45) per metric ton, f.o.b. Antwerp. It is believed that the Luxemburg makers will join the wire rod syndicate.

On April 30 there were 38 furnaces in blast in Luxemburg, which produced in April 196,651 metric tons of pig iron. The ingot production totaled 180,258 metric tons.

Ask for "No Bounty" Statement on German Exports

*Requests Made That Consular Invoices Bear the Information—Japanese
Market Quiet, Awaiting End of British Strike*

NEW YORK, June 8.—Following the receipt of cabled information from Germany similar to the cable received by Otto Wolff & Co., published in THE IRON AGE of June 3, importers of German products are requesting the mills in Germany to mark consular invoices "No Bounty Paid," which, it is believed, will meet the requirements of the Treasury Department decision imposing countervailing duties on German products on which a bounty has been received. In the meantime, no further action seems in prospect until the arrival of the first shipments subject to the decision, on and after June 20.

It is believed in some quarters that in the near future the German mills included in the recently formed United Steel Works Co. in Germany will withdraw their individual agencies in the United States and probably in other world markets and that a single office to handle the sales of the new corporation will be authorized. No immediate action in this direction seems to be expected.

Japanese Market Quiet

With the exception of continued purchasing by railroads and further inquiry for rails, the Japanese market shows no sign of improvement. The South Manchuria Railway Co., which in recent weeks has closed on two sizable lots of 75-lb. rails, has awarded 300 tons of tie plates to Suzuki & Co., New York, the order to be executed by a large mill interest in the United States. A privately owned railroad has recently closed on 40 miles of 75-lb. rails with a mill in the United States and 6 miles of 91-lb. and 122-lb. grooved rails was awarded by Tokio municipality to the New York branch of a Japanese export house. A current inquiry for rails is from the Kai-Han Electric Railway and calls

for 3½ miles of 75-lb. sections. While American prices are being secured on this tonnage, exporters seem to expect that it will go to the Imperial Steel Works in Japan.

The present lack of activity in Japan, despite the fact that the British coal strike has so crippled industry in the United Kingdom as to make promised deliveries on contracts exceedingly difficult if not impossible, is explained in some quarters by the fact that lower prices are believed by Japanese buyers to be in prospect immediately after the strike is settled. Meanwhile, stocks of light gage black sheets are heavy and apparently sufficient tin plate is on hand in Japan to tide over the present situation.

Hungarian Steel Industry Stable—Imports Decrease—Large Open-Hearth Output

BUDAPEST, HUNGARY, May 23.—Increased independence from foreign supplies of iron and steel is evident. In 1925, according to government statistics, imports of semi-finished materials declined to 685 metric tons, compared with 4100 tons in 1924, while exports increased from 140 tons in 1924 to 7023 tons in 1925.

Production of pig iron in 1925 totaled 93,283 metric tons, compared with 115,603 metric tons in 1924 and 190,444 metric tons in the present area of Hungary in 1913. Steel production, the greater part of which, 222,953 tons, was Siemens-Martin (open-hearth) was 231,140 tons in 1925, a slight decline from the 1924 figure of 238,536 tons. In the present area of Hungary in 1913, steel production totaled 443,214 metric tons.

MUST STUDY DISTRIBUTION

Proposed Census Is Step Toward Getting Accurate Measure of Consumption

LACK of knowledge of the volume and flow of commodities was held accountable for the major difficulties confronting American industry by Alvin E. Dodd, manager Domestic Distribution Department of the Chamber of Commerce of the United States, in an address before the National Pipe and Supplies Association at White Sulphur Springs, W. Va., June 2.

"Business has so increased its productive capacity," said Mr. Dodd, "that it is becoming more and more apparent that the greatest problem with which it now has to contend is to find the most effective way of disposing of the goods it produces. Unfortunately our knowledge of distribution does not measure up to our knowledge of manufacturing. While many facts concerning it are known, the outstanding and accusing fact is the great mass and importance of the unknown."

"One man estimates that the total annual retail sales of consumer goods amount to \$25,000,000,000, while another man exactly two blocks away sets the figure at \$40,000,000,000, and each of them regards his own amount as very close to the actual. The difference, \$15,000,000,000, is fairly representative of the extent of the twilight zone in which industry is groping its way."

"Our population has grown, but it has not been able to assimilate the entire output of our factories and as a consequence there has been immense effort to discover new methods of sale. To stretch the national income to cover the gap between consuming and producing capacity, installment selling has been devised. This is the manifestation of the new competition—the competition between industries and not the competition within an industry, the struggle to acquire a share of the limited income."

"One practical step toward the solution of the problem of distribution is a proposed census of distribution. This is now being discussed with Census Bureau officials. It is possible that this will be taken at the same time as the census of manufactures, as of the year 1927."

"Next in order is the periodic collection of quantities and prices of a selected few representative commodities—such as steel, copper, cotton, wool, leather, pork and wheat. With each of these commodities the quantities and prices would be collected either monthly or annually, depending on whether the product is continuous or seasonal, with the same collections of figures on a manufactured product at wholesale and at retail. In this way we should, within the course of a few years, begin to know the relation between quantity and price and be able to judge, on the basis of this knowledge, what might be expected during the coming months."

To Make Comprehensive Study of Industrial Accidents

A "safety and production study" having as its ultimate object the reduction of industrial accidents has been started by the American Engineering Council. The study aims to determine whether there is a definite correlation between safety and production, that is, whether the safe factory in general is the productive factory and vice versa. In the council's announcement of its plans it is pointed out that, in spite of 15 years of highly effective work in the safety movement, the number of industrial accidents in general still seems to be increasing, a result that is due apparently to the increasing mechanization of industry.

Arthur W. Berresford, electrical engineer, Detroit, has been named chairman of the committee, which will direct the survey. L. P. Alford, editor of *Manufacturing Industries*, New York, is vice-chairman. Bradley Stoughton, head of the department of metallurgy, Le-

high University, is one of the ten members of the council's survey committee.

A group of field engineers will work in the important industrial centers of the country under the direction of J. E. Hannum, research engineer of the Eye Sight Conservation Council of America, New York. The field work, centering in New York and Washington, will embrace ten basic industries, including iron and steel, machine building and metal working, steam railroads, electric utilities, woodworking and building construction.

Eastern States Blast Furnace and Coke Oven Association Officers

H. E. McDonnell, superintendent of blast furnaces, Weirton Steel Co., Weirton, W. Va., was elected president of the Eastern States Blast Furnace and Coke Oven Association at the annual meeting held at the Edgewood Country Club, Edgewood, Pa., June 1. He is a charter member and has been active in the affairs of the association since its organization in 1921, serving as secretary-treasurer for the 1924-25 term and during the past year as vice-president. Charles R. Meissner, superintendent of the coke plant of the Weirton Steel Co., who has been secretary-treasurer of the association during the past year, was elected vice-president. Mr. Meissner also is a charter member of the association. B. W. Winship, superintendent of the coke plant of the Bethlehem Steel Co., at Steelton, Pa., was elected secretary-treasurer.

The meeting brought together a large number of blast furnace and coke plant officials from the Cleveland, Youngstown, Wheeling, Pittsburgh and Eastern iron and steel producing districts. The dinner was followed by the presentation of a paper, illustrated by stereopticon views, on "The Plant of the Hudson Valley Coke & Products Corporation at Troy, and the Foundation Oven," by William H. Wright, Foundation Oven Corporation, New York.

COMING MEETINGS

June

Association of Iron and Steel Electrical Engineers. June 7 to 12. Annual convention, Hotel Sherman, Chicago. John F. Kelly, 513 Empire Building, Pittsburgh, secretary.

National Association of Purchasing Agents. June 9 to 12. Eleventh annual convention, Ambassador Hotel, Los Angeles, Cal. W. L. Chandler, 233 Broadway, New York, secretary.

Railway Supply Manufacturers' Association. June 9 to 16. Exhibit in conjunction with meeting of Mechanical Division of American Railway Association, Young's Million Dollar Pier, Atlantic City, N. J.

Society of Industrial Engineers. June 16 to 18. Thirteenth national convention, Bellevue-Stratford Hotel, Philadelphia. George C. Dent, 608 South Dearborn Street, Chicago, executive secretary.

National Industrial Advertisers' Association. June 19 to 24. Fifth Annual Convention, Atlanta Building, Philadelphia. W. S. Hays, c/o National Slate Association, Philadelphia, secretary.

American Society for Testing Materials. June 21 to 25. Annual meeting, Chalfonte-Haddon Hall Hotel, Atlantic City, N. J. C. L. Warwick, 1315 Spruce Street, Philadelphia, secretary.

American Society of Mechanical Engineers. June 28 to July 1. Spring meeting, Palace Hotel, San Francisco. Calvin W. Rice, 29 West Thirty-ninth Street, New York, secretary.

American Management Association. June 30 to July 2. Production Executives' Division, Silver Bay, Lake George, N. Y. W. J. Donald, 20 Vesey Street, New York, managing director.

SELF-INSURANCE PLAN

Atlantic Steel Corporation, Atlanta, Ga., Insures Own Employees and Finds Many Benefits Are Derived

The Atlantic Steel Corporation, Atlanta, Ga., recently adopted a plan of self-insurance for employees and details of it were related by Paul W. Miller, treasurer of the company, in an address before the Georgia Manufacturers' Association.

"The Georgia workmen's compensation law," said Mr. Miller, "went into effect in March, 1921, and we, in common with many other corporations, took up the required insurance through the regular agencies. At that time the whole matter was new to Georgia manufacturers and insurance men alike, and we did not give the question of self-insurance particular consideration.

"But as time went on, and the insurance companies began to demand larger and larger premiums, we began to take the question of self-insurance with more seriousness. Finally, when evidence introduced by the National Council on Compensation Insurance showed that only 57 per cent of the money received went to the actual payment of claims and that 43 per cent went to acquisition, taxes, and overhead, we determined to get out from under and become self-insurers.

"And on Jan. 1, 1925, the Atlantic Steel Corporation became a self-insurer.

How the Plan Was Devised

"We made a careful survey of the field and worked out our plan of action as follows: We took the published rate for 1925 for our class of industry, corrected by experience. We assessed our monthly cost with this premium, crediting it to a reserve fund. And against this fund we charged (a) all claims paid, (b) all accident costs, and (c) all hospital and doctors' bills. And our savings for the year amounted to 42 per cent, or approximately \$6,000.

"Not only did we find a material saving in the cost of our insurance, but there were many other advantages, some of which we had not counted upon.

Closer Contacts with Employees

"In the first place, it brought us into much closer personal contact with our employees. Under the old regime, accident claims were handled by an outside claim man. The employee often felt that the company

had no interest in him. The general policy followed was to get as much as possible out of the company and little or no interest was taken in reducing accidents.

"Under the new system, however, an accident became an intra-plant affair. As soon as a man was injured, it was reported to the company. A representative of the company went at once to see him. A company doctor attended to his injury. He felt that the company was interested in him. And he at once took more of an interest in the company.

"In the second place, quicker results were obtained through the self-insurance system. There were no go-betweens, such as the claim agent, an outside doctor, and perhaps an outside lawyer. The matter was handled between the company and the employee without loss of time and the employee was repaired and put back to work in the shortest possible time.

"And in the third place, we found that better results could be obtained by having a company doctor following the general policies laid down by the company and interested in us as well as in the men he attended.

"Instead of having to deal with a dozen different doctors, good, bad and indifferent, we had to deal with only one doctor—and we saw to it that he was one of the best to be obtained. Instead of delay we got prompt attendance upon injuries and instead of confusion we secured orderliness, intelligent treatment of every case, prompt reports, and the interest of the doctor in saving money for the firm as well as for his patient.

"But that was not all.

Employees Alert to Prevent Accidents

"In our plant the men work in crews and the pay of each crew depends upon its output. As soon as we became self-insurers, we put on a safety campaign and brought home to each crew the fact that injury to a member meant the substitution of a 'green' man, consequent delay and slowed-up work, and a lowering of the wages received.

"The result was that every member of every crew became on the alert to prevent accidents. Defects or breaks in machinery are reported to us at once for repair. Foremen no longer employ men who are old, have bad eyesight or defective hearing. Carelessness and bad practices are condemned, not only by the management but by the members of the crews themselves. And our men are just as anxious as we are to reduce accidents, prevent them, and give the plant a good experience."

Railroad Purchases in 1925

More than 2,000,000 tons of steel rails were bought by the Class 1 railroads in 1925, according to figures of the Bureau of Railway Economics. This is a considerable increase over the amount in either 1924 or 1923. Other items constituting the principal purchases are included in the table:

	1925	1924	1923
Steel rails, gross tons	2,179,201	1,778,750	1,888,600
Steel rails, value..	\$97,728,989	\$79,326,000	\$80,965,000
Other iron and steel products, value..	321,525,614	286,284,000	383,990,000
Total iron and steel, value	419,254,603	365,610,000	464,955,000
Non-ferrous metals and products, value	45,318,843	39,049,000	57,245,000
Coal, net tons.....	133,105,593	131,045,000	159,918,000
Coal, value	\$357,643,790	\$387,980,000	\$537,202,000
Fuel oil, 1000 gal..	3,042,783	2,848,550	2,962,619
Fuel oil, value....	\$97,462,744	\$79,700,000	\$75,867,000
Cross ties, number	87,964,517	98,130,000	113,907,000
Cement, barrels...	2,104,206	2,210,800	2,416,000
Lubricating oil and grease, value ...	\$13,656,286	\$13,158,000	\$15,678,000
All purchases, value	\$1,392,043,454	\$1,343,055,000	\$1,738,703,000

Fewer Locomotives Shipped in May

Shipments of railroad locomotives in May, from the principal manufacturing plants, are reported by the Department of Commerce at 140, compared with 151 in April and more than 160 in both March and February. The current figure, however, is larger than that for May, 1925, when the total was 101. Unfilled orders

at the end of the month aggregated 726, of which 631 were for domestic lines and 95 for export. Electric locomotives furnished 46 of the domestic orders and 23 of those for export.

Shipments for the first five months totalled 737, against 505 last year. Of this total 640 were domestic and 97 for export. Electric locomotives numbered 70 among the domestic shipments and 28 on foreign order.

Lake Iron Ore Shipments in May

Lake Superior iron ore shipments in May were 6,112,981 gross tons, or 26.47 per cent less than in May, 1925, when the total was 8,313,984 tons. This is a decrease of 2,201,003 tons. In May, last year, there was an increase of 26.28 per cent over May, 1924. The comparative shipments by ports for May, 1925 and 1926, and for the season were as follows in gross tons:

	May, 1925	May, 1926	To June 1, 1925	To June 1, 1926
Escanaba	837,406	762,912	1,126,229	762,912
Marquette	462,179	288,581	515,376	288,581
Ashland	949,731	751,447	1,185,020	751,447
Superior	2,174,879	1,555,061	2,709,061	1,554,725
Duluth	2,935,868	2,023,287	3,619,472	2,023,287
Two Harbors	953,921	731,693	1,279,541	731,693
Total	8,313,984	6,112,981	10,434,699	6,122,645
Decrease		2,201,003		4,312,054

The decrease to June 1, this year, is 41.32 per cent from the corresponding period a year ago. Duluth's percentage of the total this year is 33.04 as compared with 34.68 per cent last year.

Trade Changes

The Hyatt Roller Bearing Co., Worcester, Mass., has moved its offices from the Park Building to the fourth floor, Central building. Frank U. Naughton is local manager.

Arthur F. Way Co., Burnside District, Hartford, Conn., electric drills and accessories, has discontinued operations and leased parts of its plant to a company which is to manufacture picture frames. The Arthur F. Way Co. line of drills has been taken over by Goodell-Pratt Co., Greenfield, Mass. The Hartford company has no definite plans for the future. John T. Way, Westfield, Mass., is president; Arthur F. Way, Hartford, Conn., treasurer; and Frank L. Young, Windsor, Conn., secretary.

The Miller Iron & Steel Co., Milwaukee, has been incorporated, with \$25,000 capital stock, to deal in new and reclaimed iron and steel products, including used machinery, tools and equipment. The corporation succeeds a partnership of similar name with headquarters at 610 Vilet Street, Milwaukee. The principals are Herman H. and Morris Miller and Michael Sadek.

Hubbell & Sharp, who have been selling iron and steel products in the St. Louis territory for many years, have been appointed agents in the Southwest territory for the Rome Brass & Copper Co. and Rome Hollow Wire & Tube Co., Rome, N. Y., and they have organized the Brass & Copper Sales Co. to separate this business from the steel business. The Brass & Copper Sales Co. has opened an office and warehouse at 1712 Chestnut Street, St. Louis, and will handle the products of the two Rome companies out of warehouse as well as for shipment direct from the mills. The firm of Hubbell & Sharp has also moved its offices to 1712 Chestnut Street, St. Louis. H. P. Hubbell is president of the new company; J. B. Sharp, vice-president; Howard H. Hubbell, secretary-treasurer, and G. B. Leitch is manager.

The Baldor Electric Co., 4351 Duncan Avenue, St. Louis, manufacturer of single-phase, polyphase and d.c. electric motors, has opened an office in Detroit, to take care of eastern Michigan, Ohio and Indiana. The office is at 10-216 General Motors Building, Detroit. G. E. Edscorn, district representative, has been with the St. Louis sales department for about eight months and was previously with the Wagner Electric Corporation, and Breck Engineering Co., both of St. Louis.

The Grace Machinery Co., 4 Grafton Street, Worcester, Mass., has purchased and will operate the Worcester Machinery Co., 140 Commercial Street, which began operations some 40 years ago. Both concerns deal in used machinery. They will continue to operate under their respective names, but Harris Grace succeeds B. H. McMahon as executive head of the acquired firm.

The J. W. Judge Co., Call Building, San Francisco, has been appointed exclusive representative of Wyckoff Drawn Steel Co., Pittsburgh, for the Pacific Coast territory, effective June 1.

The Newark Steel Products Corporation has acquired, under lease, the works of the Hewitt Steel Corporation, 8 Lister Avenue, Newark, N. J., and will carry for warehouse distribution a tonnage of steel products, including all sizes of reinforcing and merchant bars. The plant is located on the Manufacturers Branch of the Central Railroad of New Jersey, on the Passaic River, about one block from the Lincoln Highway into New York. Robert E. Jennings, 2nd, is president.

The Superior Pattern Works, 2114 East Woodbridge Street, Detroit, has been changed from a partnership business to a corporation and is continuing in the manufacture of wood and metal patterns. The company has a large shop fully equipped to make any part of wood or metal patterns. R. G. Schram is manager.

The Liberty Machine Tool Co., Hamilton, Ohio, is contemplating a reorganization and a changing of its name, but nothing definite has yet been done. P. Benninghofen is president; A. R. McCann, vice-president and general manager, and B. R. Millikin, secretary and treasurer.

The Detroit Electric Furnace Co., Detroit, is moving to 325 Elizabeth Street West, Detroit.

Warren Webster & Co., Camden, N. J., have opened a branch office in Salt Lake City, with Rushby C. Midgley as district manager. This branch will serve the requirements of customers in Utah, southeastern Idaho and eastern Nevada.

The Gabriel Tubular Furnace Co., Inc., which has been manufacturing its furnaces in Seattle for some years, has decided to locate its plant in Tacoma, Wash.

The Pump Equipment Co., 305 First Avenue South, Seattle,

Northwest distributor for the Duro water systems, has enlarged its facilities and will include the handling of concealed water sprinkling systems for lawns. R. T. Sinex is in charge of this department.

The Wood Hydraulic Hoist & Body Co., San Francisco, has opened a factory branch at 2319 Fifth Avenue, Seattle, where offices and warehouse are maintained, in charge of A. G. Kerr, manager, and J. H. Spridgeon, assistant manager.

Frederic B. Stevens, Ltd., has been established with main office and warehouse at 139 Royce Avenue, Toronto. This Canadian company will handle and service the entire Stevens line of foundry facings and supplies, platers' equipment, etc., for the Canadian trade, and will also represent in Ontario the Quigley Co. of Canada for the sale and service of Hytempite, Acid-Proof Cement and other Quigley products.

The Standard Asbestos & Cork Co., 541 South Troost Street, Tulsa, Okla., has been appointed distributor for Adamant fire brick cement, a high-temperature cement made by the Botfield Refractories Co., Philadelphia.

The Hydro-Electric Mfg. Co., Milwaukee, is moving its factory and general offices to larger quarters at 1613 Humboldt Avenue, Milwaukee.

Effective May 15 the headquarters of the consolidated purchasing agency of the American Short Line Railroad Association, J. W. Cain, manager of purchases, were transferred from McCormick Building, Chicago, to 1508-9 Second National Bank Building, Houston, Texas.

The R. H. Beaumont Co. has opened a western branch at 1544 Strauss Building, 310 South Michigan Avenue, Chicago. H. E. Birch, for many years sales manager at Philadelphia, will be in charge. Preliminary designs and estimates, as well as contract work and construction in the Middle West, will be handled from this branch. The company specializes exclusively in coal and ashes handling equipment for boiler and gas houses.

The Carr Fastener Co., Cambridge, Mass., manufacturer of "Dot" lubricators, has disposed of its interests in the automobile and commercial car field, to devote efforts to the development of the industrial field.

The Boston office of Waldo, Egbert & McClain, Inc., 111 Devonshire Street, has been discontinued. Loring Gary Calkins is still representing the concern in the New England territory.

H. B. Carlson, former secretary and treasurer Mid-West Machine Tool & Supply Co., Davenport, Iowa, has disposed of his interests in that concern and formed the Carlson Machinery Co., Davenport. Mr. Carlson's associates in this new venture are R. R. Engelhart and H. R. Bartlett, respectively vice-president and secretary Sieg Co., Davenport, distributor of automotive equipment. The Carlson Machinery Co. will work in close conjunction with the Sieg Co., which has 18 salesmen in the territory and will cover the automotive equipment and industrial fields with a complete line of machine tools.

The Metalace Corporation, 27 Norwood Street, Boston, woven wire, has leased the second floor at 60 K Street, South Boston, and will occupy it soon.

The Steel City Iron Co., Youngstown, Ohio, has moved to Sycamore and Andrews Streets, Youngstown. This gives greatly enlarged quarters and increased facilities for handling structural steel and light iron work. C. J. Derby is general manager.

North & Judd Mfg. Co., New Britain, Conn., automobile hardware, etc., has purchased the W. & E. T. Fitch Co. of that district.

The Federal Iron Works Co., Youngstown, has removed to 100 North Prospect Street, Youngstown, where it has purchased a three-story brick building. Some new equipment has been contracted for. The company does ornamental iron and light structural steel work. F. J. McCarthy is president.

The Flexo Supply Co., 104 South Main Street, St. Louis, has moved to 4465 Manchester Avenue, St. Louis.

The Warren Hide & Leather Co., a \$150,000 subsidiary of the Warren Belting Co., Worcester, Mass., has acquired the Warren Leather Co., Morrisville, Vt. Winfred A. Place, president, and William H. Bowman, treasurer, Warren Belting Co., hold respective positions in the new subsidiary. C. H. Slocum of the Morrisville company is vice-president of the Warren Hide & Leather Co.

The Frank B. Ward Co., 501 Park Building, Pittsburgh, has been appointed exclusive sales agent in the Pittsburgh district for Dill slotters, heretofore built by the T. C. Dill Machine Co., but now manufactured by the Nazel Engineer-

ing & Machine Works, Philadelphia, which also manufactures the Nazel forging hammer.

The Stockbridge Machine Co. has opened an office at room 1810 Singer Building, 149 Broadway, New York.

The Steel Products Co., Cleveland, maker of automobile valves, and the Thompson Products Co., a junior corporation that handled the replacement sales of the company's products, have been merged into one company and the name of the former changed to the Thompson Products Co. Various changes have been made in the titles of officials of the company. The new officers are as follows: C. E. Thompson, president; W. D. Bartlett, senior vice-president; C. W. Miller, vice-president and general manager; E. G. Thompson, vice-president and manager of replacement sales division; F. C. Crawford, vice-president and manager of Detroit plant; J. A. Krider, treasurer, and W. M. Albaugh, secretary.

The Hasson Steel Co., with offices at 12 Hudson Street, Milton, Mass., and at 34 Woodville Street, Roxbury, Boston, has established a downtown office at room 448 Old South Building, Washington Street, Boston.

The Taunton-New Bedford Copper Co., Taunton, Mass., has appointed the John H. Helmbuecher Metals Co., 514 North Third Street, St. Louis, as agent in St. Louis and the Middle Western States. Preparations are being made to carry a complete assortment of "Eagle Brand" sheet, roll and strip copper. O. B. Suck is vice-president and manager of the St. Louis agency. The Taunton-New Bedford Copper Co., founded in 1826, is this year celebrating the completion of 100 years in continuous operation as a non-ferrous rolling mill.

The office of the California Institute of Steel Construction, northern division, San Francisco, has been moved from the Matson Building to the Atlas Building, Mission and Second Streets. Promotional work has been abandoned for the present, although the local office will continue to cooperate with the American Institute of Steel Construction in local publicity work.

The Boston office of Pilling & Co., Inc., pig iron, alloys, coke and coal has been moved from the top floor, 200 Devonshire Street, to room 628 Chamber of Commerce Building, 80 Federal Street. Fred F. Newcomb is resident manager.

Butts & Ordway Co., Boston, iron, steel and heavy hardware, has consolidated its former Purchase Street and Brookline Avenue stores at 44 Stanhope Street, between Stuart Street and Columbus Avenue.

The Webster Mfg. Co., 4520 Cortland Street, Chicago, has taken over the Weller Mfg. Co., 1856 North Kostner Avenue, Chicago, manufacturer of elevating and conveying machinery. The Weller Mfg. Co. was established in 1886 and is one of the oldest makers of elevating and conveying machinery in the Chicago territory.

The Sullivan Machinery Co., 122 South Michigan Avenue, Chicago, has moved its northwestern sales office, Spokane, Wash., from the Hutton Building to 120 South Lincoln Street. The change provides larger quarters and the offices, display room and warehouse will be together at the new location. Robert T. Banks is manager.

Effective June 1, the corporate name of the Kaw Boiler Works Co., Kansas City, Kan., is changed to Kaw Steel Construction Co. This style is more representative of the nature of the business and product.

The Cecil R. Lambert Co., Inc., Detroit, specialist in design, manufacture and installation of conveying and handling equipment, has changed its name to Mechanical Handling Systems, Inc. The company's facilities for service are being materially increased by additions to its plant and personnel, but there is no change in ownership, management or executive staff.

The Omaha branch office Timken Roller Bearing Service & Sales Co., formerly at 2524 Farnum Street, has been moved to larger quarters at 2240 Douglas Street. The management will continue under the direction of A. D. Hackim.

The Los Angeles branch Timken Roller Bearing Service & Sales Co. has been moved to 1361 South Figueroa Street, from 1241 South Hope Street.

The Milwaukee Crane & Mfg. Corporation, Milwaukee, builder of electric traveling cranes and hoists, has appointed W. C. Lloyd, 913 Empire Building, Pittsburgh, as representative in the Pittsburgh district.

Edward N. Pike, consulting engineer, room 1061, 200 Devonshire Street, Boston, on and after July 1 will be located at 38 Chauncy Street, that city.

The New England Structural Co., 200 Devonshire Street, Boston, on July 1 will move its executive offices to the Chauncy Building, 38 Chauncy Street, fourteenth floor.

The Florandin Equipment Co., labor-saving machinery, has moved its office from 110 West Fortieth Street, to the Foundation Building, 120 Liberty Street, New York.

Industrial News Notes

The Ferbert-Schorndorfer Co., paint and varnish manufacturer, Berea Road, Cleveland, plans to carry forward its construction project held in abeyance during the building strike in Cleveland. The Austin Co., Cleveland, is engineer and builder. The new office building will be two stories, 30 x 60 ft., of brick and steel construction, to cost about \$50,000. Another large addition to the manufacturing plant—the fourth in five years—will be started shortly. Last fall the varnish manufacturing facilities were greatly increased, while the entire plant has been doubled in size since 1922. The company is supplying several large automobile manufacturers largely with ground coats and finishing enamels. In the metal furniture field it supplies Jamestown and Grand Rapids furniture companies with paints for metal office furniture, safes, files, etc.

The Wyoming Shovel Works, large manufacturers of hand shovels, Wyoming, Pa., have awarded a contract for the design and construction of a large building at its main plant to the Austin Co., Philadelphia branch. The building, to cost approximately \$50,000, will replace one recently destroyed by fire, and at the same time increase the manufacturing floor space. The new addition, built to increase the production of shovel handles, will be 100 x 200 ft., with monitor construction. A large dry kiln is to be installed.

The Macaulay Steel & Equipment Co., Hansford Block, San Francisco, has been organized, for the sale and distribution of railroad material, equipment and machinery, by M. Macaulay and R. F. Heckman, who were formerly connected with the United Commercial Co., San Francisco.

The Timken Roller Bearing Co., Canton, Ohio, is to spend \$1,500,000 in expanding the Canton plant. The new units are to be completed by Jan. 1, 1927. The new program includes provision for enlarged laboratory and research facilities. The output of electric furnace steel from the Timken mills is said to be the largest in the world. Steel is required for production at the rate of 132,000 bearings daily.

Industrial Finances

The Ames Shovel & Steel Co., incorporated under New Jersey laws, has filed with the Massachusetts commissioner of corporations a financial statement dated Feb. 28, last, showing total assets and liabilities of \$5,680,880, which compares with \$5,704,951 at the close of the previous year. Among the liabilities, accounts payable stand at \$329,993, or \$111,746 more than a year ago. On the other hand, notes payable were reduced from \$90,929 to \$9,071. The company had due it on notes and accounts receivable \$248,648, or \$32,177 less than at the close of the previous year, and cash on hand of \$202,180, an increase of \$125,499. The merchandise account stands at \$1,135,259, a decrease of \$201,108.

The Consolidated Machine Tool Corporation in its annual report for 1925 shows a loss of \$309,953 after charges, interest, depreciation, taxes, etc. The net loss in 1924 was \$589,481. Net sales for 1925 were \$2,579,962. Total assets of the company are listed at \$7,768,478.

Deeds have passed transferring the assets of the Graton & Knight Mfg. Co., Worcester, Mass., belting, to the Graton & Knight Co., the final step in the reorganization of the business. The company has plants at St. Louis, Glen Cove, L. I., and Worcester.

The American Bosch Magneto Corporation, Springfield, Mass., has called for redemption the outstanding \$826,000 Gray & Davis, Inc., 7 per cent first convertible sinking fund bonds at 105 and interest. This is a step toward liquidation of Gray & Davis, Inc. The Springfield company recently sold its heating, lighting and battery ignition business to the Electric Auto-Lite Co., Cleveland, for approximately \$2,500,000 and has decided to dispose of its Cambridge and Amesbury, Mass., plants.

Ford Buys Coke Ovens

The Ford Motor Co., Detroit, has signed a contract with the Wilputte Coke Oven Corporation, 469 Fifth Avenue, New York, for installation of 120 Wilputte regenerative coke ovens at the Fordson plant, work to begin immediately.

Machinery Markets and News of the Works

LARGER INQUIRY

Railroads More Active in the Machine Tool Market

Atlantic Coast Line Issues Large List—Illinois Central Buys—General Electric Co. Wants 34 Tools

SOMEWHAT more interest in machine tools on the part of a few of the railroads gave more life to the markets last week than they have shown in several weeks. The Atlantic Coast Line has issued an inquiry for 20 tools and 13 cranes for a new locomotive shop at Uceta, Fla., and the Illinois Central bought a number of heavy tools. Purchases of the Boston &

Albany for its shops at Springfield, Mass., have not been completed. Tools have been bought by the Texas & Pacific and Nashville, Chattanooga & St. Louis. The New York, New Haven & Hartford is inquiring for about half a dozen machines.

The General Electric Co. has issued inquiries for 20 tools for its Buffalo plant and for 14 for its Philadelphia plant. The Locomobile Co., Bridgeport, Conn., may buy a fairly large list of tools if plans for expansion of motor manufacturing facilities are carried out. The International Motor Co., Plainfield, N. J., and the Otis Elevator Co., New York, have bought fair-sized lots of tools.

June business so far has not shown up so well as that of earlier months of the year, but there is a good deal of inquiry pending which, if closed this month or next, will give some of the machine tool companies a fair start for the summer months.

New York

NEW YORK, June 8.

ALTHOUGH there is a fairly large volume of a machine tool inquiry in the market, with the prospect that much of it may be closed this month or next, actual orders for tools placed in the past week show a slight decline. The trend has been downward for the last few weeks. One of the largest lists before the trade is that of the Atlantic Coast Line, involving about 20 tools, for a new locomotive repair shop to be built at Uceta, Fla., in addition to which 13 cranes will be required. The tools will be bought by the purchasing department of the railroad, but the cranes will be ordered by Dwight P. Robinson & Co., New York, who have the contract for the building construction. Another large inquiry being quoted on is from the General Electric Co., involving about 20 tools for its Buffalo plant and 14 for Philadelphia. The New York, New Haven & Hartford Railroad has issued an inquiry for about a half-dozen tools. A prospective purchaser of considerable shop equipment is the Locomobile Co., which is contemplating expansion of its motor manufacturing facilities at Bridgeport, Conn. Preliminary estimates on a large number of machine tools have been submitted to the company. The International Motor Co., Plainfield, N. J., and the Otis Elevator Co., New York, have been buying fair-sized lots of tools.

Among orders placed during the week are the following: A Texas railroad, an axle lathe and a carwheel lathe; a New England railroad, an 8-ft. plate bending roll; a paper manufacturer in Maine, a 62-in. vertical boring mill; a Milwaukee manufacturer, three 53-in. boring and turning mills; an Eastern railroad, a 4-ft. radial drill; a cash register company, four multiple spindle drilling machines, two with 24 spindles and two with 16 spindles; a Chicago company, a vertical surface grinder; a tool works at Hamilton, Ohio, a jig borer and a vertical shaper; a carpet manufacturer, a profiling machine; a Hartford, Conn., company, a centering machine; a Cleveland motor company, a milling machine.

The Atlantic Coast Line locomotive repair shop to be built at Uceta, Fla., a suburb of Tampa, for which Dwight P. Robinson & Co., New York, have the construction contract, will consist of a main building, 265 x 638 ft., to be used as an erecting shop and another structure, 45 x 176 ft. Thirteen electric traveling cranes ranging in capacity from 10 to 100 tons and four 3-ton jib cranes will be installed.

The ground is now being cleared for the erection of the buildings.

Bids will be received by the Board of Trustees, State Institute of Applied Agriculture, Farmingdale, L. I., until June 25 for an air compressor and kindred equipment. Specifications on file at the office noted and offices of the State Department of Architecture, Flatiron Building, New York, and Capitol Building, Albany, N. Y.

The Interstate Plumbing Co., Albany, N. Y., has awarded a general contract to the Ferro Concrete Construction Co., Cincinnati, for a two-story plumbing and heating equipment storage and distributing plant, 40 x 150 ft., on Broadway, with pipe-threading and cutting departments, etc., estimated to cost \$100,000 with equipment. C. H. Gardiner, 46 North Pearl Street, is architect.

The Mutual Electric & Hardware Mfg. Co., 28 Verandah Place, Brooklyn, is said to be planning the early purchase of a planer, shaper and other machine tools.

The superintendent of lighthouses, Staten Island, N. Y., is asking bids until June 15 for approximately 12,000 lb. steel castings during the six months ending Dec. 31, proposal 21849; until June 23, for 100 acetylene flashers.

The National Metal Molding Co., 17 East Forty-second Street, New York, has leased space in the building at 455 Eleventh Avenue, adjoining its present works at 459 Eleventh Avenue, for extensions.

The Board of Transportation of the City of New York, 49 Lafayette Street, will soon begin clearing the site bounded by West 207th and 216th Streets, Tenth Avenue and the Harlem River, preparatory to the construction of a machine shop and car storage yards for the Rapid Transit Railway system, reported to cost in excess of \$1,000,000 with equipment. Francis J. Sinnott is secretary.

Stern & Peyser, 12 East First Street, Mount Vernon, N. Y., architects, have plans for a one-story automobile service, repair and garage building, 100 x 200 ft., estimated to cost close to \$70,000 with equipment.

The Texas Co., 17 Battery Place, New York, has authorized plans for a new oil refinery at Craig, Colo., to handle its production from the Moffat field, to cost approximately \$500,000 with machinery.

The Manhattan Brass Co., 332 East Twenty-eighth Street, New York, is retiring from business, and the entire plant, including machinery, tools, stock, etc., will be liquidated by the Industrial Plants Corporation, 25 Church Street, New York.

The Board of Education, Union School District No. 6, Montrose, N. Y., is considering the installation of manual training equipment in its proposed two-story and basement high school, near the Albany Post Road, estimated to cost \$300,000, for which superstructure will soon begin. Knappe & Morris, 171 Madison Avenue, New York, are architects.

The Standard Sealing Equipment Corporation, 67 Vestry Street, New York, manufacturer of sealing devices, will occupy the new factory on Rawson Avenue, near Queens Boulevard, Long Island City, recently leased, expanding production.

The Rockland Light & Power Co., Nyack, N. Y., has been organized with a capital of \$26,000,000 to take over the local company of the same name, the Orange County Public Service Co., and the Catskill Power Co., consolidating in the new organization. Plans are under advisement for extensions and improvements, including transmission line construction.

Robert E. Farley, 342 Madison Avenue, New York, has plans for a two-story automobile service, repair and garage building, 80 x 180 ft., at Westchester, N. Y., to cost \$150,000 with equipment. Contract for building has been let to the Barney Ahlers Construction Corporation, 110 West Fortieth Street, New York.

The Guaranteed Magneto Parts Co., 12 West End Avenue, New York, has leased space in the building at 250 West Fifty-fourth Street, for extensions.

The Gibraltar Corrugated Paper Co., 3611 Fourteenth Avenue, Brooklyn, has acquired property, 150 x 380 ft., on the Hackensack Plank Road, Bergen County, N. J., as a site for a new plant to manufacture corrugated boxes and containers, for which plans will soon be drawn.

J. E. Lehman and E. F. Kohler, Orange, N. J., associated, have filed plans for the construction of a one-story plant at 555 Central Avenue for the manufacture of coal chutes and kindred products.

The Universal Joint Co., Plainfield, N. J., manufacturer of automobile equipment, is said to be arranging the construction of a new one-story plant, 55 x 100 ft., at Flemington, N. J., to cost about \$50,000 with machinery.

E. I. du Pont de Nemours & Co., Wilmington, Del., have awarded a general contract to Frank Hartman, Charlottesville, Va., for its proposed new fuse manufacturing plant at Pompton Lakes, N. J., consisting of a group of twelve buildings, estimated to cost \$175,000. H. B. Eaton is company engineer.

Fire, May 27, caused by an explosion, destroyed a portion of the plant of the B. & G. Engineering Co., North Arlington, N. J., with loss reported at \$35,000 including equipment. Plans for rebuilding are being considered. The fire spread to the plant of the Seaboard Metal Co., on adjoining site, and destroyed a building at this works.

Work has begun on a new steam-operated electric generating plant at Whippany, N. J., by the Jersey Central Power & Light Co., Morristown, N. J. The initial output will be 20,000 kw., with boiler installation to consist of five 916-hp. units with auxiliary equipment, including chain grate stokers, automatic coal and ash-handling machinery, etc. The entire project is expected to cost in excess of \$1,500,000 with transmission lines.

Walter Mahnken, 388 Bergenline Avenue, Union City, N. J., architect, has plans for a three-story automobile service, repair and garage building, 75 x 102 ft., at Union City, estimated to cost \$80,000 with equipment.

The Aero Corporation of America, Inc., Toms River, N. J., recently formed with a capital of \$2,500,000 by Capt. Anton Heinen, German dirigible expert and others, is said to be contemplating the establishment of a new plant in this section for the manufacture of aircraft and parts. Local offices have been opened with Captain Heinen in charge. William R. Leary and Franklin J. Minturn, both of Toms River, are also interested in the organization.

The Newark Electrical Supply Co., 223 Market Street, Newark, has acquired the five-story building at 152-4 Mulberry Street and will remodel for a new works. Operations will be concentrated at the new location and the retail business discontinued. It is expected to occupy the structure early in July. O. Frederick Rust is president.

The Public Service Electric & Gas Co., Public Service Terminal, Newark, will issue common stock in amount of \$25,000,000 and preferred stock for \$15,000,000, a portion of the proceeds to be used for extensions and improvements in power plants and system as provided in the 1926 program. The entire expansion and betterment approved for the year aggregates \$50,000,000.

The Mitzel Golf Ball Corporation, 480 Henderson Street, Jersey City, N. J., a recently organized company, is in the market for rubber molding presses. It is putting on the market a new type of golf ball which at present is to be manufactured in the plant of the American Rubber Products Corporation, Jersey City.

The General Tube Co., manufacturer of steel tubing, is moving from 56-60 Earl Street, Newark, to larger quarters at 49-61 Empire Street, and will purchase some new equipment.

The N-Oel Metal Corporation, 239 Clerk Street, Jersey

City, N. J., has been incorporated to manufacture non-ferrous metal products, specializing in a bearing bronze. It is contemplating either the erection of a new plant or the purchase of a building suitable for its requirements.

Philadelphia

PHILADELPHIA, June 7.

CONTRACT has been let by the John M. Driver Co., 1644 North Fifty-fifth Street, Philadelphia, manufacturer of paper products, to the R. P. Whitty Co., Union Trust Building, Washington, for a one and two-story addition, 60 x 270 ft., to cost about \$90,000. Stetler & Deysher, 1015 Chestnut Street, Philadelphia, are architects.

The American Fabricated Steel Co., Inc., 2442 Bodine Avenue, Philadelphia, has acquired a one-story building on American Street, on site 113 x 235 ft., for expansion.

The Edward G. Budd Mfg. Co., Twenty-fifth Street and Hunting Park Avenue, Philadelphia, manufacturer of steel automobile bodies, has plans for a one-story addition, 70 x 145 ft., to be equipped as a pressing and stamping shop, to cost about \$75,000.

The Department of Public Works, Philadelphia, is completing plans for the early construction of a new incinerator plant at Fifty-first Street and Grays Ferry Avenue. A fund of \$600,000 is available for the structure and machinery.

The Diamond Machine Co., Harrison Building, Philadelphia, manufacturer of grinding machinery, etc., has leased the entire building at 543 North Marshall Street for expansion.

The General Electric Co., Witherspoon Building, Philadelphia, has taken out a permit for proposed additions to its plant at Elmwood Avenue and Sixty-eighth Street to cost \$1,550,000 with equipment.

The William Cramp & Sons Ship & Engine Building Co., Richmond and Norris Streets, Philadelphia, has secured an award from the Navy Department, Washington, for the construction of a light cruiser, complete with power equipment, at a price of \$10,900,000, and will advance production at the yard. It has also taken an order for main propelling machinery, boilers and other power equipment, and complete auxiliaries for a second such cruiser to be built at the New York Navy Yard.

The Atwater Kent Mfg. Co., Roberts Avenue and King Street, Philadelphia, manufacturer of radio equipment, is said to have plans for a one-story sawtooth roof type addition, adjoining the present works, 225 x 515 ft., to cost in excess of \$350,000 with equipment. The Ballinger Co., Twelfth and Chestnut Streets, is architect and engineer.

The Hoffman-Henon Co., Finance Building, Philadelphia, architect, has plans under way for a three-story automobile service, repair and garage building, 42 x 120 ft., at Camden, N. J., to cost close to \$100,000, with equipment.

The American Brown-Boveri Electric Co., Broadway and Fairview Street, Camden, N. J., operating at the former plant of the New York Shipbuilding Co., is said to have plans under way for a shop addition, 60 x 175 ft., to cost more than \$50,000 with equipment. It will advance operations at the yard, and has developed a system of standardized ship construction for larger output. Contracts have just been received for the building of 33 steel patrol boats for the United States Coast Guard Service, to cost \$63,000 each, and for 6 Diesel engine-electric ferry boats for the Erie Railroad, New York.

L. V. Lacy, Forty Fort, Pa., architect, has revised plans for a one and two-story and basement automobile service, repair and garage building, 130 x 155 ft., at Melrose Avenue and Old River Road, Wilkes-Barre, Pa., to cost approximately \$125,000 with equipment.

Fire, June 2, destroyed a portion of the plant of the Ochs & Frey Brick Co., Mill Street, Allentown, Pa., with loss estimated at \$75,000 including equipment. It is planned to rebuild. The company is headed by Albert F. and Jacob W. Grim.

The Boyertown Burial Casket Co., Boyertown, Pa., will rebuild the portion of its plant destroyed by fire May 28, with loss reported at more than \$500,000 including machinery. A large part of the loss was sustained by the metal-working department, consisting of a seven-story building, equipped with 75 motor-driven machines and auxiliary apparatus. Lawrence E. Mory is president.

The Williamsport Passenger Railways Co., Williamsport, Pa., will soon ask bids for the construction of a one-story car barn and shop, 100 x 350 ft., to cost in excess of \$100,000 with equipment. L. W. Heath is general manager.

The Northampton School District, Northampton, Pa., plans the installation of manual training equipment in a new junior and senior high school estimated to cost \$200,000, for

The Crane Market

ALTHOUGH purchasing of overhead cranes is still small, inquiries for single pieces of equipment and lists of cranes continue to accumulate. The outstanding inquiry of recent weeks is the list of 13 overhead cranes for the Atlantic Coast Line, bids being taken by Dwight P. Robinson & Co., 125 East Forty-sixth Street, New York, and the purchasing agent of the railroad at Wilmington, N. C. The list includes four 3-ton, two 15-ton, five 5-ton and two 100-ton cranes. Another list in the market calls for about a half-dozen small cranes for the West Philadelphia shops of the General Electric Co., Schenectady, N. Y. The equipment for the Conowingo power project being inquired for by Stone & Webster, Inc., Boston, includes two 150-ton overhead cranes. The 24 overhead cranes for the New York Rapid Transit Corporation, 85 Clinton Street, Brooklyn, N. Y., and three cranes for the Tannin Corporation, 100 East Forty-second Street, New York, are still pending. The International Paper Co., 100 East Forty-second Street, New York, which is inquiring for six overhead cranes, hand power and electric, will be in the market for a 7½-ton hand power crane for Bastrop, La., following purchase of the present list. The locomotive cranes for the Public Service Production Co., Newark, N. J., and the New York Central Railroad have not yet been closed.

New inquiry and purchasing are light in the Pittsburgh district. The Wheeling Steel Corporation, Wheeling, W. Va., is mentioned as a possible buyer of a crane to serve a new skelp mill at its Benwood works.

Among recent purchases are:

General Engineering & Management Corporation, 165 Broadway, New York, a 5-ton, 44-ft. span hand power crane from the New Jersey Foundry & Machine Co.

Joseph Hymen & Son, Philadelphia, a 15-ton, 35-ft. span electric traveling crane from the Northern Engineering Works.

Waldrich Realty Co., Delawanna, N. J., a 10-ton, 27-ft. 10-in. span hand power crane from Alfred Box & Co.

Bergen-Hudson Iron & Steel Works, North Bergen, N. J., a 3-ton, 20-ft. span, hand power crane from Alfred Box & Co.

Clark Brothers Co., Olean, N. Y., two 1-ton single I-beam cranes from an unnamed builder.

West Virginia Pulp & Paper Co., 200 Fifth Avenue, New York, a 3-ton hand power crane reported purchased from the Armington Engineering Co.

Navicoal Co., Perth Amboy, N. J., a 25-ton locomotive crane from the Browning Crane Co.

Loizeaux Co., Elizabeth, N. J., a 25-ton locomotive crane from the Browning Crane Co.

The Reading Co., Philadelphia, a standard ditcher from the American Holst & Derrick Co. This is the fourth ditcher purchased recently.

Chicago, Burlington & Quincy Railroad, one ditcher from the American Holst & Derrick Co.

American Hollow Boring Co., Erie, Pa., a 5-ton, 32-ft. span overhead traveling crane from a Northwestern builder.

Carnegie Steel Co., Mingo, Ohio, a 15-ton, 3-motor overhead crane from the Northern Engineering Works.

Power Specialty Co., Dansville, N. Y., a 10-ton, 3-motor, overhead crane from the Northern Engineering Works.

which bids are being asked on a general contract until June 21. Clayton J. Lappley, Parkside Building, Third and Locust Streets, Harrisburg, Pa., is architect.

The Central Automatic Sprinkler Co., 5145 Delancey Street, Philadelphia, has been formed to take over the entire business of the existing companies known as the Central Automatic Sprinkler Co. of Maryland, and the Central Automatic Sprinkler Co. of Pennsylvania, and certain other interests allied with these companies. The ownership will remain in the same hands as at present. The company will shortly move into larger quarters made necessary by the growth of its business, but it has not been decided whether to build a plant or purchase an existing factory.

The Scout Electric Co., Mascher and Turner Streets, Philadelphia, has been incorporated with capital stock of \$10,000 and is engaged in the manufacture of electrical appliances. Officers are Alan Stern, president; Harry Hirschfeld, vice-president and secretary, and Sidney Wodlisc, treasurer.

The Wyoming Shovel Works, Wyoming, Pa., has awarded contract to the Austin Co., Cleveland, for the construction of a new building to replace a unit recently destroyed by fire. It will cost about \$50,000.

The Carl E. Gingher Co., Scranton, Pa., has been incorporated with capital stock of \$15,000 and has engaged in the business of distributing mechanical and electrical machinery. It is in the market for material and equipment of this type.

New England

Boston, June 7.

THE past week was featureless in the local machine tool market. Interest centered very largely in purchases by the Boston & Albany Railroad for its Springfield shops, which have not been completed. Other sales were few but consisted mostly of new equipment. A further falling off in inquiries is reported, those received the past week being for single machines for special purposes.

June sales of small tools have also decreased and to date are approximately 30 per cent less than in May.

Botwinik Brothers, Inc., 67 Water Street, New Haven, Conn., has purchased about 1200 machine tools from a Hartford, Conn., manufacturing company and will offer them for sale.

The city of Lynn, Mass., is taking bids for a pumping station and appurtenances. Morris Knowles, 507 Westinghouse Building, Pittsburgh, is the architect.

Plans are in progress for a four-story, 150 x 75 ft. power house, to cost \$1,000,000 with equipment, for the Quincy Cold Storage Warehouse Co., 133 Commercial Street, Boston. F. L. Fairbanks, the company's engineer, is in charge.

The trustee in bankruptcy of the Northway Motors Corporation, Natick, Mass., on June 15 and 16 will sell at public auction the plant, real estate, machinery and equipment. Many machine tools are included in the inventory.

The Buff & Buff Mfg. Co., Green Street, Jamaica Plain, Boston, surveying instruments, is having plans prepared for a one-story, 31 x 51 ft., addition. Royal Barry Mills, 8 Beacon Street, Boston, is the architect.

Two 1000-hp. boilers, superheaters, forced draft equipment, feed pumps and pulverizers are required for a \$300,000 addition to the power house of the Hood Rubber Co., Nichols Avenue, Watertown, Mass., bids for which are asked. Francis B. Gallaher, 276 Stuart Street, Boston, is the engineer. A stack and high pressure piping will be purchased later.

The Ideal Foundry Co., 752 Eddy Street, Providence, R. I., has taken out a permit to construct a new one-story foundry on Public Street.

The Eastern Massachusetts Street Railway Co., 5 Fernwood Street, Boston, has awarded a general contract to R. A. Doyle, 32 Caldwell Crescent, Lynn, Mass., for a one-story car repair shop and car house, 100 x 225 ft., at Melrose, estimated to cost \$50,000.

The Moroney Commercial Body Co., Worcester, Mass., manufacturer of automobile truck bodies, has plans for a new one-story plant, 50 x 65 ft., on the State Highway, Shrewsbury, Mass.

Charles H. Dresser & Son, Union Street, Hartford, Conn., manufacturers of millwork products, have filed plans for a four-story addition to cost about \$30,000.

The Pittsburgh Plate Glass Co., Boston, has taken out a permit for a new storage and distributing plant at 300-316 Babcock Street, to cost about \$215,000 with conveying and other handling machinery. Headquarters are in the Frick Building, Pittsburgh.

The Whittredge Portable Buildings Co., Lynn, Mass., manufacturer of standardized metal industrial buildings and garages, has acquired the plant and business of the Worcester Steel Garage Co., Worcester, Mass., manufacturer of similar products, for a branch plant. Expansion and improvements are under consideration.

The Russell Mfg. Co., Middletown, Conn., manufacturer of brake lining, etc., has awarded a general contract to Denis O'Brien & Sons, Inc., 15 McDonough Place, for a one-story addition, 37 x 140 ft.

South Atlantic States

BALTIMORE, June 7.

FOLLOWING the recent purchase of the plant of the Arundel Shope Brick Co., Chesapeake Avenue, Brooklyn, Baltimore, by the Stresbilt Tile Co., Alexandria, Va., plans have been arranged for the installation of additional equipment for the manufacture of cement tile, concrete bricks, etc. It will be operated as a branch works.

The Board of Trustees, St. Mary's Industrial School, Wilkens Avenue, Baltimore, has plans for a four-story addition, one floor of which will be used for manual training work, laboratory service, etc. Hugh I. Kavanagh, 913 Calvert Street, is architect.

The LaGrange Iron Works, LaGrange, Ga., is arranging to rebuild the portion of its plant recently destroyed by fire. Considerable new machinery will be installed.

H. C. Davis, 327 South McDowell Street, Raleigh, N. C., has inquiries out for a quick change lathe, 12 to 16-in. swing, 8-ft. bed; also for an industrial motor and motor frame.

The City Council, Hagerstown, Md., has rejected bids recently received for a pumping plant and filtration works for the municipal water system and expects to ask new bids in the near future. G. L. Bean, Abbott Building, Philadelphia, is engineer.

The Carter's Production Works, P. O. Box 1191, Wilmington, N. C., has been inquiring for a clam-shell bucket, about ¾-yd. capacity, suitable for dredging.

The Consolidated Gas, Electric Light & Power Co., Lexington Building, Baltimore, is completing plans for a five-story equipment storage and distributing plant, 156 x 185 ft., to cost about \$260,000 with conveying and other handling equipment. The company engineering department is in charge.

The Norfolk & Western Railway Co., N. & W. Railway Building, Roanoke, Va., Clyde Cocks, room 351, purchasing agent, is asking bids until June 16 for approximately 55,000 tons steel rail, contract serial No. AA-410.

The du Pont National Ammonia Co., Wilmington, Del., has been formed by officials of E. I. du Pont de Nemours & Co. as a subsidiary organization, capitalized at \$13,100,000, to take over the ammonia and affiliated interests of the parent company, including the holdings in Lazote, Inc., with ammonia works operating under the Claude process at Charleston, W. Va. The company will also succeed to the plants of the National Ammonia Co., 3600 North Broadway, St. Louis, with branch factory at Philadelphia, and will secure a large portion of the stock of the Pacific Nitrogen Corporation, with plant at Seattle. Plans are under way for general expansion. Jasper E. Crane is president; B. L. Ward, treasurer, and M. D. Fisher, secretary.

The Johnson Marble & Granite Co., Inc., Greensboro, N. C., has acquired a local building and will soon install equipment. The company is in the market for stone and marble-working tools, air compressor, electric motors, sand-blast machinery and auxiliary equipment. Joseph J. Sawyer, Jefferson Building, is architect.

The Yellow Cab Co., 1123 Cathedral Street, Baltimore, will take bids soon for a proposed four-story service, repair and garage building, 200 x 300 ft., remodeling and equipping an existing structure, estimated to cost \$80,000 with equipment. Kubitz & Koenig, Emerson Tower Building, are architects.

The Common Council, Savannah, Ga., plans the installation of pumping machinery in connection with proposed extensions and betterments in the municipal waterworks and sewage system. A bond issue of \$250,000 will be used for the first noted and \$90,000 for the sewage system.

The Southern Furniture Co., Burlington, N. C., is completing plans for the construction of a new factory, to cost about \$200,000 including machinery. The company is headed by M. B. Smith and E. Holt, both of Burlington, and associates.

The Juliette Milling Co., Juliette, Ga., is considering the rebuilding of its grain-milling plant, destroyed by fire May 27 with loss reported at \$150,000 including machinery.

The Atlantic Coast Line Railway Co., Wilmington, N. C., is arranging a fund of \$159,000 for the purchase of signals and interlocking signalling plants at different points along the line. The work will be carried out in connection with a general expansion and improvement program to cost \$5,500,000.

The Cinder Block Corporation, Kate Avenue and the Western Maryland Railway, Baltimore, Charles B. Minning, president, will expend about \$60,000 for extensions and improvements in its plant. Work has begun.

The Virginia Public Service Co., Alexandria, Va., recently formed as an interest of A. E. Fitkin & Co., 165 Broadway, New York, will take over and consolidate the Alexandria Light & Power Co., Virginia Northern Power Co. and the

Virginia Western Power Co. Plans are under way for expansion in the different plants and systems.

The Jakin Novelty Works, Jakin, Ga., manufacturer of wood specialties, will make extensions, including the establishment of a new wood-working mill at Donaldsonville, Ga., with machinery installation to more than double the present output.

The Board of Awards, office of the City Register, City Hall, Baltimore, is asking bids until June 16 for equipment for the municipal waterworks, including valves, hydrants and kindred products. V. Bernard Siems is water engineer for the city.

The City Commission, Rome, Ga., is considering the installation of pumping equipment in connection with proposed extensions in the municipal waterworks. A fund of \$300,000 is being secured for this and other municipal betterments.

The Lightning Hoist & Grapple Co., Augusta, Ga., has been incorporated and is equipping a machine shop and blacksmith shop to manufacture a patented hoist and grapple for loading and unloading automobiles in freight cars and for similar uses. These machines are to be built of 3-in. channels and 1½-in. cold rolled steel. J. P. Doughty, Jr., is president.

Pittsburgh

PITTSBURGH, June 7.

MACHINE tool sales in the first week of June have not held up to the weeks immediately preceding. The year to date has been reasonably satisfactory and it is the general opinion of the trade that the present quiet period is merely a lull. In heavy machinery, interest at the moment centers on auxiliary equipment for the new H-beam mill of the Carnegie Steel Co. at Homestead, Pa., and in the requirements for the modernization of the steel works at the Duquesne plant.

The American Hollow Boring Co., Erie, Pa., is building a new machine shop, 65 x 130 ft. It will transfer all modern equipment from the old shop and supplement it with new machinery. The old building will be used as a warehouse.

Work has begun on a five-story and basement addition, 70 x 220 ft., at the plant of the Westinghouse Electric & Mfg. Co., Sharon, Pa., to cost about \$300,000 with equipment. The company will also erect a one-story extension for heat-treating and galvanizing service. Bernard H. Prack, Martin Building, Pittsburgh, is architect and engineer.

The Gloninger Co., Arrott Building, Pittsburgh, has plans under way for rebuilding the portion of its brick works at Vanport, Pa., recently destroyed by fire with loss of about \$45,000.

The Interstate Window Glass Corporation, Kane, Pa., is being organized by bondholders, stockholders and creditors of the Interstate Window Glass Co., to take over the local plant and property of the company, developing plans for operations at an early date. The new company will arrange for a bond issue of \$2,221,500, the proceeds to be used to carry out the project and for expansion.

The Board of Education, Richwood Independent School District, Richwood, W. Va., is asking bids until June 14 for the construction of a power house in conjunction with other work. Edward J. Wood & Son, Lowndes Building, Clarksburg, W. Va., are architects.

Fire, May 29, destroyed a portion of the silica plant of the Standard Plate Glass Co., Butler, Pa., with loss reported at close to \$100,000 including equipment. It is planned to rebuild. Headquarters are in the First National Bank Building, Pittsburgh. Joseph Heidenkamp is head.

The Universal Portland Cement Co., Universal, Pa., with main office at 210 South La Salle Street, Chicago, is said to have plans for a one-story addition, 100 x 450 ft., to cost close to \$450,000 with machinery.

The Board of Public Instruction, Pittsburgh, contemplates the installation of manual training equipment in the proposed addition to the Langley high school, estimated to cost \$600,000. Plans have been filed.

The Carbide & Carbon Chemical Corporation, South Charleston, W. Va., is said to be concluding negotiations for the purchase of the plant and property of the Barium Reduction Co., on local site. Plans are under way for early operation and expansion. The site aggregates about 11 acres.

The M. M. Lane Co., Lincoln Building, Detroit, architect and engineer, has plans under way for a new one-story foundry at Erie, Pa., for a company whose name is temporarily withheld.

Buffalo

BUFFALO, June 7.

THE De Luxe Living Room Furniture Co., 4743 Seneca Street, Buffalo, is said to be arranging to rebuild the portion of its factory recently destroyed by fire, with loss estimated at \$75,000 including equipment.

The Rochester Auto Inns, Inc., 208 National Bank of Rochester Building, Rochester, N. Y., I. W. Steele, head, has awarded a general contract to the Turner Construction Co., 11 Goodell Street, Buffalo, for a six-story automobile service, repair and garage building, 130 x 140 ft., to cost \$300,000. Gordon Y. Kaelber, Hiram Sibley Building, is associate architect.

The Folmer-Graflex Corporation, Rochester, N. Y., has been chartered under Delaware laws, with capital of \$7,000,000, to take over the Folmer-Century division of the Eastman Kodak Co., including a five-story factory. The new company has arranged a preferred stock issue of \$900,000 to carry out in part the property acquisition and expansion. William F. Folmer is president; Walter F. Folmer, vice-president; and Harold W. Stimpson, treasurer.

The Northeastern Power Corporation, affiliated with the New England Power Association, Worcester, Mass., has concluded negotiations for the purchase of the plant and system of the Oswego River Power Co., Oswego, N. Y., and will take immediate possession. The company will operate in conjunction with its other electric light and power interests in this district. Expansion is planned, including a new transmission line to connect with the system of the Northern New York Utilities, Inc.; and for the construction of a line from Taylorville to South Colton, with power substations, etc.

The Board of Education, Albion, N. Y., has tentative plans under advisement for the construction of a steam power plant for service at the high school to cost about \$35,000.

The American Roll Screen Co., Rochester, has been incorporated with an authorized capital of \$300,000 and has succeeded to the business of the Fli-Bac Screen Corporation. It is planning to manufacture rolling screens and metal weatherstrips and has no plans for expansion at present. R. V. Howland is secretary.

Detroit

DETROIT, June 7.

NEGOTIATIONS have been concluded by the Wilcox Laboratories, Lansing, Mich., manufacturers of radio equipment, for the purchase of the former factory of the Bennett Furniture Co., Charlotte, Mich., which will be remodeled for a new branch plant.

Bids will soon be asked by the Department of Water Supply, Detroit, for two elevated steel water tanks, each with capacity of 1,500,000 gal., for which plans are being completed. G. H. Fenkell, 176 East Jefferson Avenue, is general manager.

Harry T. Smith, Moffat Building, Detroit, architect, has completed plans for a two-story and basement automobile service, repair and garage building on Adelaide Street, 50 x 170 ft., to cost \$65,000.

The General Motors Corporation, Detroit, has arranged an expansion program for its Pontiac Division, and plans the early construction of a complete new plant unit at Flint, Mich., to cost approximately \$4,000,000 with machinery.

A new company is being formed under the name of the Edmunds-Hall Corporation, Detroit, capitalized at \$750,000 and 500,000 shares of stock, no par value, to take over the Edmunds & Jones Corporation, Lawton Avenue, and the Hall Lamp Co., Detroit, both specializing in the manufacture of automobile head lights, etc. The new company plans expansion, including increased production facilities, and is said to be negotiating for the purchase of a third concern in the same line.

The Common Council, Allegan, Mich., is planning improvements in the municipal electric lighting plant and will purchase a generator, oil-operated engine of 150 hp. capacity, and accessory equipment.

The Westinghouse Electric & Mfg. Co., East Pittsburgh, has asked bids on general contract for its proposed four-story factory branch, service and repair shop at Detroit, estimated to cost \$450,000 with equipment. Albert Kahn, Inc., Marquette Building, Detroit, is architect.

The Common Council, Melvindale, Mich., will soon take bids for a pumping plant for sewage service. George Jerome, Majestic Building, Detroit, is engineer. George W. Foster is city clerk.

Dodge Brothers, Inc., Detroit, recently purchaser of the plant and business of the Graham Motor Truck Co., Evansville, Ind., is said to be planning the removal of the en-

gineering department of the Graham company to the Detroit works, where all operations of this character will be concentrated.

The Standard Oil Co. of Indiana, Inc., 910 South Michigan Avenue, Chicago, is reported to be planning the construction of a new storage and distributing plant at Ann Arbor, Mich., to cost in excess of \$50,000 with equipment. Schlitz & Bailey, 53 West Jackson Boulevard, Chicago, are architects.

Bonnah & Chaffee, Barium Building, Detroit, architects, have plans for a one-story automobile service, repair and garage building, 70 x 900 ft., at Highland Park, to cost about \$225,000 with equipment.

The Stinson Aircraft Corporation, Detroit, has been incorporated with capital stock of \$300,000, of which \$175,000 is paid in, and its purpose is to manufacture the Stinson-Detroit airplane, designed by Edward A. Stinson. The company is in the market for materials that enter into the construction of airplanes. Its plant is at Northville, Mich., where production has been started. W. A. Mara is secretary.

The Agnew Electric Welder Co., Milford, Mich., has been incorporated with capital stock of \$50,000, its products being spot, butt and seam welders, also an alternating current arc welder, which has just been placed on the market after two years of experimenting.

The Sparta Foundry Co., Sparta, Mich., has recently been incorporated with capital stock of \$150,000 to manufacture metal castings. The business was first organized and incorporated in 1921 as the Oil Stopper Piston Ring Corporation. At that time the organizers had it in mind to conduct a foundry for the manufacture of piston ring castings, a machine shop for the machining of these rings and a mail order business for marketing their product. The Sparta Foundry Co. is a reorganization of this business and it has been conducting the foundry department of the former Oil Stopper Piston Ring Corporation for some time. The stockholders and officers are the same as in the old corporation. The Sparta Foundry Co. will continue to manufacture piston ring castings, having a daily output of nearly 100,000. D. W. Atkinson is secretary-treasurer.

Chicago

CHICAGO, June 7.

MACHINE tool buying became more active during the last few days of May, with the result that the total volume of sales for the month was only slightly less than for April and better than for May a year ago. Inquiry, which is widely scattered, is largely for individual tools and does not lend much encouragement to the trade. Deliveries are satisfactory, and prices are steady except on sensitive drills, which advanced 10 per cent this week.

The International Harvester Co. plans a daily production of 50 tractors at its Rock Island, Ill., plant. The past week it purchased several items of tool room equipment, and it has issued requisitions for a large lathe, several milling machines and a number of shapers. The Illinois Central is rapidly closing its Paducah, Ky., shop list, having placed a 4-ft. radial drill, a 5-ft. radial drill, a 36-in. x 10-ft. planer and other equipment. The Chicago & North Western is inquiring for a 75-ton Chambersburg, or equal, automatic bushing press; a 42-in. Barnes, or equal, upright drill press, and a 53-in. Niles-Bement-Pond, or equal, single head boring mill, all motor driven.

The Indianapolis, Ind., Board of School Commissioners is inquiring for the following tools, which are to be motor equipped with the exception of the anvils and forges:

- Six 11-in., or 13-in., x 3-ft. engine lathes.
- One 14-in., or 16-in., x 6-ft. engine lathe.
- One 12-in., 14-in. stroke, swivel-head shaper.
- One plain milling machine, with 22-in. longitudinal feed and 8-in. traverse.
- One 6-in. x 6-in. hack saw.
- Two 150-lb. anvils.
- Two 28-in. x 40-in. portable forges.

J. Marker, 4207 Wealand Avenue, Chicago, will build a one-story blacksmith shop, 25 x 60 ft., to cost \$9,000. S. Telch, 64 West Randolph Street, is architect.

The Chicago Steel Tank Co. will build a two-story factory at Clearing, Ill., 100 x 500 ft., to cost \$175,000. The architect and general contractor is Foltz & Brand, 510 North Dearborn Street, Chicago.

The Chicago & Eastern Illinois Railroad plans the erection of a \$500,000 machine shop and round house at Evansville, Ind.

The Niemann Table Co., Seventy-seventh Street and Cottage Grove Avenue, Chicago, plans the construction of a boiler

house in connection with a proposed one and two-story factory. The entire project will cost \$100,000. The Sessions Engineering Co., 208 South La Salle Street, is engineer.

The Pheoll Mfg. Co., 7500 Roosevelt Road, Chicago, manufacturer of nuts, rivets, screws, etc., has asked bids on a general contract for its one-story and basement addition, 60 x 350 ft., to cost \$100,000 with machinery. A. L. Alshuler, 28 East Jackson Boulevard, is architect. Mason Phelps is president.

The Common Council, Olney, Ill., plans the installation of pumping machinery in connection with a proposed municipal waterworks, for which plans are being drawn by Edward Flad & Co., Chemical Building, St. Louis.

The Symons Clamp & Mfg. Co., 4249-59 Diversey Avenue, Chicago, has taken out a permit for a one-story addition, 100 x 117 ft., to cost about \$40,000. T. B. Jorgensen, Burnham Building, is architect.

The Crowe Name Plate & Mfg. Co., 1749 Grace Street, Chicago, has awarded a general contract to William C. Morrice, 5 North La Salle Street, for its two-story and basement addition, 25 x 115 ft., to cost about \$50,000 with equipment. C. A. Eckstrom, 5 North La Salle Street, is architect.

The Chicago, Rock Island & Pacific Railroad, 139 West Van Buren Street, Chicago, has plans for a new one-story mechanical and repair shop, 60 x 120 ft., on 124th Street, Burr Oak, Chicago, estimated to cost \$35,000 with equipment.

The United Oil Co., Florence, Colo., is considering the rebuilding of the portion of its storage and distributing plant destroyed by fire May 24, with loss reported at \$100,000 including tanks and other equipment.

The Julien-Dubuque Garage Co., 12 South Grandview Street, Dubuque, Iowa, has tentative plans for a three-story automobile service, repair and garage building, estimated to cost \$160,000 with equipment.

The Department of Public Works, Springfield, Ill., is considering plans for a new two-story industrial art school at the State normal school, Charleston, Ill., estimated to cost \$175,000. J. Lindstrom, Capitol Building, Springfield, is acting architect.

The Southern Colorado Power Co., Pueblo, Colo., has plans under advisement for extensions and improvements in its steam-operated electric generating plant at Florence, Colo., including the installation of additional equipment. W. N. Clark is general manager.

The James H. Boye Mfg. Co., 412 Orleans Street, Chicago, manufacturer of brass and bronze castings, etc., has awarded a general contract to Henry Wolter, 6138 Kenmore Avenue, for its new one-story plant, 145 x 160 ft., to cost approximately \$80,000 with equipment. William Presto, 310 North Michigan Avenue, is architect.

The Gade Mfg. Co., Iowa Falls, Iowa, has been incorporated to take over the manufacturing equipment, patterns and all other assets of the Gade Brothers Mfg. Co., which has been manufacturing the Gade Air Cooled Gasoline Engine. Since the war the activities of the Gade Brothers Mfg. Co. have been restricted and the new organization plans to put the product back on the market.

Milwaukee

MILWAUKEE, June 7.

SALES of machine tools in this market appear to be improving, although volume is still lacking in new orders. Inquiry has become somewhat more active, but there are few calls for estimates embracing more than one or two items. Production continues at a high rate, and a sharp demand exists for skilled metal trade labor, tool and die makers, molders and machine hands. The Kemp-smith Mfg. Co. will this month ship one of the largest types of universal millers to Australia for use in a Government railroad shop. A shipment of millers was made a short time ago to South Africa by the same interest.

The Northwestern Malleable Iron Co., Milwaukee, is closing bids for the reconstruction of its annealing building at the main works at 756 Park Street, with an extension, 60 x 70 ft. The work is in charge of C. S. Whitney, consulting engineer, 214 Mason Street, Milwaukee.

The Atlas Metal Parts Co., 997 Fifteenth Street, Milwaukee, has placed contracts for the erection of a new plant, 58 x 124 ft., part two stories and basement. It manufactures automotive and other units and parts and will soon be in the market for miscellaneous equipment.

The Neillsville, Wis., Board of Public Works is calling for bids for the construction of a 250,000-gal. steel tank mounted on a concrete tower, for the municipal waterworks

system. H. L. Brown is city clerk, and J. H. A. Bratz, 601 Builders Exchange, St. Paul, Minn., is consulting engineer.

The Neenah, Wis., Board of Education has engaged John D. Chubb, architect, 109 North Dearborn Street, Chicago, to design a new high school with vocational training departments at an estimated cost of \$750,000. Plans probably will be ready by July 1.

The Jefferson, Wis., County Highway Commission is asking bids for furnishing two drag line bucket outfits of $\frac{3}{4}$ and 1-yd. capacity, with 1000 ft. of plow steel cable. R. D. Royce, Fort Atkinson, Wis., is County highway commissioner.

The Johnson & Field Mfg. Co., Racine, Wis., a pioneer manufacturer of seed cleaning machines, has disposed of its plant, property and business to the S. C. Howes Co., Silver Creek, N. Y. It is understood that the Racine plant will be consolidated with the main works in New York.

A machine shop has been established at Two Rivers, Wis., by Steven Grumann and J. H. Barrett, a partnership under the name of the Two Rivers Tool & Die Works, to do a general machine and repair business, specializing in tools and dies for the aluminum goods industry, with which both partners have been affiliated for many years.

Brown County Motors, Inc., Green Bay, Wis., has awarded the general contract to H. J. Selmer & Co., local, for erecting a \$125,000 garage, sales and maintenance building, three stories, 75 x 175 ft.

The Clubine Co., Ashland, Wis., has acquired the former plant of the Ashland Sulphite Co. and will convert it into a saw and planing mill, specializing in dimension stock. The work includes the erection of an addition for finishing processes. The total investment will approximate \$500,000, including new machinery and equipment.

Indiana

INDIANAPOLIS, June 7.

PLANs are under way for an addition to the plant of the Remy Electric Co., Anderson, Ind., manufacturer of automobile starting and lighting equipment, to be known as building No. 5, reported to cost more than \$150,000 with equipment. The company has recently completed unit No. 4. C. E. Wilson is general manager.

The City Council, Danville, Ind., will soon ask bids for pumping equipment for the municipal water system. R. W. Noland, Lafayette Life Building, Lafayette, Ind., is engineer.

The Board of Education, 150 North Meridian Street, Indianapolis, plans the installation of manual training equipment in the proposed three-story and basement Shortridge high school, estimated to cost \$1,000,000, for which bids will be asked on a general contract early in the fall. J. Edwin Kopf & Deery, Indiana Pythian Building, are architects.

The General Automotive Corporation, Indianapolis, recently organized by William M. Fogarty, president of the Security Automobile Insurance Co., Indianapolis, is arranging for the establishment of a local plant to manufacture patented pistons for automobile engines. The company has secured the manufacturing and selling rights from the Anti-Slap Piston Co., Rahway, N. J. Mr. Fogarty and his son, Eugene M., will head the new company.

The Mid-State Rubber Co., Evansville, Ind., manufacturer of hard rubber goods, has awarded a general contract to J. Bippus & Son, Evansville, for a one-story addition, 30 x 80 ft., to cost about \$25,000 with equipment.

The Studebaker Corporation, South Bend, Ind., is having plans drawn for a two-story service, repair and garage building on local site, to cost in excess of \$100,000 with equipment. Albert Kahn, Inc., Marquette Building, Detroit, is architect.

The Bartles-Maguire Oil Co., East Chicago, Ind., has work in progress on a new refinery for gasoline production with a rated daily output of 2500 bbl. It is expected to have the unit ready for service in July.

The Josam Mfg. Co., Euclid Building, Cleveland, manufacturer of pipe, pipe unions and kindred products, has awarded a general contract to the H. K. Ferguson Co., for its proposed one-story foundry addition at Michigan City, Ind., 130 x 160 ft., to cost approximately \$55,000.

Arrangements are being made for the sale of the plant and business of the Enterprise Iron Works, Marion, Ind., operating under a receivership for a number of weeks past.

The New York, Chicago & St. Louis Railroad Co., Toledo, Ohio, will soon ask bids for rebuilding its one-story machine shop for locomotive repairs at Frankfort, Ind., 118 x 150 ft., recently destroyed by fire. It will cost in excess of \$90,000 with equipment.

The Kokomo Steel & Wire Co., Kokomo, Ind., suffered a loss by fire May 24, estimated at more than \$250,000. Plans are under way for rebuilding.

The American Thermostat Corporation, Muncie, Ind., has been incorporated to market automatic temperature regulators and other heating specialties direct to the home owner. For the present its production is being taken care of on contracts with outside plants. R. P. Maynard, president of the company, has for the past six years been chief combustion engineer for the Wayne Tank & Pump Co. and is the inventor of several types of domestic oil burners. He has served as vice-chairman of the committee on underwriters standards of the American Oil Burners Association.

Cincinnati

CINCINNATI, June 7.

INTEREST in the local machine tool market has centered on the purchase of equipment by the Illinois Central for its Paducah, Ky., shops. Among the tools are a 36-in. heavy-duty planer, a 54-in. No. 4 carwheel lathe, a 96-in. 800-ton wheel press, a 1500-lb. single frame steam hammer, two 1100-lb. single frame steam hammers and a 32-in. locomotive slotting machine placed with the Niles-Bement-Pond Co. It is understood that some of the machines have been bought from local builders. The Atlantic Coast Line will take bids until June 12 on 16 engine lathes and four portable lathes. The Nashville, Chattanooga & St. Louis is reported to have closed for a shaper, a drill and a planer, while the Boston & Albany purchased a radial drill and an 8-ft. x 1/2-in. No. 2 bending roll. The Texas & Pacific Railroad, Dallas, Tex., bought a No. 3 axle lathe, a No. 4 carwheel lathe, two sensitive drills and a Long & Allstatter guillotine shear.

The A. O. Smith Corporation, Milwaukee, bought three 53-in. boring mills, and the International Harvester Co. purchased six No. 55 Newark gear cutters for its Fort Wayne, Ind., Works. The Louisville & Nashville is inquiring for a 22-in. engine lathe, while the General Electric Co. is expected to purchase a large extension bed gap lathe for its Buffalo plant. A local builder sold a 36-in. lathe in Wisconsin, and a 30-in. lathe each in New York and Texas. Other tools disposed of in the past week include a 20-in. shaper for a Chicago concern; Long & Allstatter guillotine shear for the Southern Pacific Railroad, San Francisco; two Grand Rapids tap grinders for the Chevrolet Motor Co.; Brown & Sharpe miller for the Mitchell Machine & Gear Works, San Francisco; 62-in. boring mill for the Great Northern Paper Co., Millinocket, Me.; 30-in. x 24-ft. lathe for Ford, Bacon & Davis, New York City.

Atlantic Coast Line

F. H. Fechtig, purchasing agent Atlantic Coast Line, Wilmington, N. C., will take bids until June 12 on the following tools:

- Three 18-in. x 8-ft. engine lathes.
- Three 20-in. x 8-ft. engine lathes.
- Three 24-in. x 12-ft. engine lathes.
- One 16-in. x 8-ft. engine lathe.
- Four 16-in. x 5-ft. portable lathes.
- One 20-in. x 10-ft. engine lathe.
- One 36-in. x 14-ft. engine lathe.
- Two 18-in. x 10-ft. engine lathes.
- One 24-in. x 16-ft. engine lathe.
- One 36-in. x 18-ft. engine lathe.

The Good Roads Supply & Machinery Co., 165 1/2 North High Street, Columbus, Ohio, is in the market for two 250 to 300-hp. water tube boilers, Babcock & Wilcox, Heine or other standard make; must be Ohio standard for 180-lb. pressure and complete without stack.

The American Oil Pump & Tank Co., Dalton and Findlay Streets, Cincinnati, is considering tentative plans for a new one-story plant on Chickering Avenue, to cost about \$50,000 with equipment. S. F. Kemper is president.

The Crosley Radio Corporation, Colerain and Sassafras Streets, Cincinnati, has awarded a general contract to the Ferro Concrete Construction Co., Elm Street, for its six-story addition, 75 x 260 ft., to cost \$250,000 with equipment. Samuel Hannaford & Son, Dixie Terminal Building, are architects.

The Johnson City Shale Brick Co., Johnson City, Tenn., has plans under way for rebuilding the portion of its plant destroyed by fire May 25, with loss reported at \$175,000 including equipment.

The Board of Education, Goodwin Institute Building, Memphis, Tenn., has plans for a one-story mechanical shop at Broadway and Lauderdale Streets, 100 x 163 ft., to cost close to \$50,000 with equipment. Regan & Weller, Bank of Commerce Building, are architects.

The Big Run Coal & Clay Co., Ashland, Ky., plans the installation of additional equipment at its coal-mining and clay properties, including motor-driven coal-mining machinery, electric power apparatus and other equipment, to cost about \$50,000. C. A. Coleman is president and treasurer.

The Bond Brothers Hardwood Co., Louisville, plans the rebuilding of the portion of its mill recently destroyed by fire, with loss estimated at \$40,000 including equipment.

Stanley Matthews, Blymyer Building, Cincinnati, architect, has plans under way for a two-story automobile service, repair and garage building, 100 x 185 ft., on Lincoln Street, to cost about \$100,000 with equipment.

The Board of Education, Columbus, Ohio, plans the installation of manual training equipment in its proposed combination senior and junior high school at Olive and Powell Avenues, for which plans have been approved. It will cost about \$750,000. Howard Dwight Smith, 217 East State Street, is architect for the board.

The Federal Power Co., P. O. Box 16, Knoxville, Tenn., recently organized, has made application to construct a hydroelectric power plant on the Nolichucky River in Tennessee and North Carolina, to develop a total output of 72,000 hp. A transmission system will be built. Charles M. Seymour is president.

The William Powell Co., 2521 Spring Grove Avenue, Cincinnati, manufacturer of valves, steam specialties, etc., is having plans drawn for a one-story foundry addition to cost about \$25,000. Tietig & Lee, Merchants Bank Building, are architects.

The Acme Art Glass Co., Columbus, Ohio, has work under way on a new plant at 1325-65 West Goodale Boulevard and expects to have the factory equipped and ready for service early in July. R. N. Creager is manager.

The Beare Ice & Coal Co., Jackson, Tenn., is completing plans for a new ice-manufacturing and cold storage plant, to cost approximately \$65,000 with equipment.

The E. J. Lebo Co., Tiptonville, Tenn., has authorized the rebuilding of its cottonseed oil mill recently destroyed by fire. The new structure will be 60 x 225 ft. and is estimated to cost \$120,000, of which approximately \$80,000 will be expended for equipment. A drill press, lathe and other machine tools will also be installed.

Cleveland

CLEVELAND, June 7.

THE June outlook for machine tool business in this district shows little change from May. Sales the past week were light. Dealers are getting moderate volume of inquiries, but practically all for single machines. Considerable business is in prospect, but buyers are slow in placing orders and many of the inquiries have been pending for some time. Detroit automobile manufacturers are buying very little equipment at present. Railroads in this territory have no inquiries out. Sales of turret lathes are confined to single machines; forging machinery is inactive, although a local manufacturer is still well filled with old orders.

Recent orders for foundry equipment taken by the W. W. Sly Mfg. Co., Cleveland, include two large tumbling mills for the Gartland-Haswell-Rentschler Foundry Co., Dayton, Ohio; two large tumbling mills and dust arresting equipment for the Elmira Foundry Co., Elmira, N. Y.; large sand blast mill and rotary table and dust arresting equipment for the Draper Corporation, Hopedale, Mass., and five tumbling mills for Smith & Wellstood, Ltd., Bonneybridge, Scotland.

The Motors Realty Co., Cleveland, has taken bids for a three-story automobile service station and sales room on East Twenty-fourth Street, to be occupied by the Barnes Motor Co., Cleveland district distributors for Dodge cars.

The Ohio Motor Co., Cleveland, has taken bids for a one-story and basement addition, 100 x 150 ft.

The Rickersburg Brass Co., East Thirty-seventh Street and Perkins Avenue, Cleveland, has awarded contract to the Van Blarcom Co., National City Bank Building, for a one-story plant, 150 x 200 ft., for the manufacture of plumbers' brass goods.

The Ohio Public Service Corporation, B. F. Keith Building, Cleveland, is having preliminary plans prepared for a power house to be erected near Bellaire, Ohio, at an estimated cost of \$10,000,000.

The Garver Lumber Co., Strassburg, will erect a planing mill, 48 x 150 ft., to replace a building destroyed by fire. New wood-working machinery will be installed.

The Columbian Vise & Mfg. Co. has been incorporated and has taken over the business of the Columbian Hardware Co., 5113 Hamilton Avenue, Cleveland. At present the company is buying its castings and forgings and such parts in the rough and doing its own finishing and assembling. Officers of the Columbian Vise & Mfg. Co. are Dan C. Swander, president; H. F. Seymour, vice-president; A. V. Cannon, secretary, and H. M. Hitch, treasurer.

The Henkel-Clauss Co., cutlery, Fremont, Ohio, advises that it is not preparing plans for an addition and that the statement to this effect was erroneous.

Gulf States

BIRMINGHAM, June 7.

THE Dallas Power & Light Co., Dallas, Tex., will construct an addition to its steam-operated electric power plant at North Dallas and install new generating machinery and auxiliary equipment to increase the output from 35,000 to 60,000 kw. The expansion will cost in excess of \$600,000. The transmission lines will also be extended.

The Stutz-North Texas Co., Ross Avenue and Akard Street, Dallas, local representative for the Stutz automobile, will erect a new two-story service, repair and garage building, 100 x 100 ft., to cost about \$85,000 with equipment. J. A. Pitzinger, Southwest Life Building, is architect. Walter C. Cameron is president.

The Parker Securities Co., Brownsville, Tex., has plans under way for the construction of a steam-operated electric light and power plant at Olmito, near Brownsville, estimated to cost \$45,000.

The Houston Gulf Gas Co., Houston, Tex., is disposing of a preferred stock issue of \$1,000,000, a portion of the fund to be used for extensions and improvements, including pipe line construction. William L. Moody, III, is vice-president.

C. A. Barnes & Son, 1600 Walnut Street, Philadelphia, scrap iron, etc., contemplates the establishment of a new branch plant at Sarasota, Fla., to be equipped as a structural steel and iron shop and yard, reported to cost \$45,000. A department will be installed for steel fabrication.

The Texas Central Power Co., Frost National Bank Building, San Antonio, Tex., is said to have plans for an addition to its electric light and power station at Moulton, Tex., and for enlargements in the ice-manufacturing plant, with the installation of additional equipment.

The Hartline Blotter Pen Co., 210 Fidelity Building, Tampa, Fla., manufacturer of steel pens, fountain pens, etc., is completing plans for a new factory to cost about \$65,000, of which approximately \$35,000 will be expended for equipment. It is in the market for metal-working machinery, steel wire, motors and auxiliary operating equipment. W. A. Hartline is president.

The New Orleans Public Service Co., New Orleans, has arranged an expansion program to cost approximately \$6,000,000, to include additions to present generating plants and transmission lines, as well as gas properties.

The American Sheet Metal Works, Inc., 3500 South Carrollton Avenue, New Orleans, will erect a new one-story plant on Hagan Avenue, reported to cost \$30,000 with equipment. Favrot & Livaudais, Hibernia Building, are architects. George Koehler is secretary.

The Equitable Equipment Co., New Orleans, has been making inquiries for one 15-kw., d.c., 125-volt generator, direct-connected to self-contained automatic steam engine, with accessories.

The Excelsior Soft Water Co., Albuquerque, N. M., plans extensions in its power house, including the installation of a horizontal return tubular boiler and auxiliary equipment. William R. Edgar is general manager.

The Lone Star Gas Co., Dallas, Tex., has authorized the construction of a new pipe line from Wichita Falls, Tex., west to Vernon and Quanah, Tex., to cost approximately \$1,500,000. Later the line will be extended to Amarillo, Tex., and vicinity. L. B. Denning, Columbus, Ohio, is president.

The Common Council, Alexander City, Ala., is arranging a bond issue of \$25,000 the proceeds to be used for a one-story addition at the municipal electric light and power plant, including additional equipment installation and for water system betterments.

The Waxahachie Ice Works, Inc., Red Oak, Tex., has plans under way for a new ice-manufacturing and cold storage plant, to cost about \$40,000 with equipment. W. D. Anderson is president.

The Estes Lumber Co., 2600 Twenty-eighth Avenue, North, Birmingham, will proceed with the erection of a new

mill in the North Birmingham section, where about 12 acres recently was acquired. The plant is estimated to cost \$200,000. Thornton Estes is president.

The Martin Cement Products Co., West Twenty-third Street, Hialeah, Tex., has plans under way for the construction of a new one-story mill, to cost about \$30,000 with equipment. The installation will consist of brick machinery, tile-forming machinery, rock crusher and accessories. Inquiries are being made.

The Roeser-Pendleton Co., Breckenridge, Tex., is arranging for the early construction of a new gasoline refinery on the Cook lease, Shackelford County, with initial output of about 12,000 gal. per day, to cost close to \$100,000 with machinery.

The Canulette Shipbuilding Co., Slidell, La., has plans for the construction of a one-story machine shop, 70 x 200 ft., at its shipyard on the Bayou Vincent.

St. Louis

ST. LOUIS, June 7.

THE Northern Nebraska Power Co., Spencer, Neb., will issue securities in amount of \$700,000, the entire proceeds to be used for a proposed hydroelectric power development on the Niobara River, with 200-mile transmission system. Work will begin soon.

The Field Hardware Mfg. Co., 111 East Thirty-first Street, Kansas City, Mo., has leased a one and two-story plant, 90 x 125 ft., to be erected by the Woods Brothers Construction Co., Security Building, estimated to cost \$50,000.

The Champlin Refining Co., Enid, Okla., H. H. Champlin, head, has begun an expansion program at its local refinery, including the installation of additional machinery. The entire work will cost about \$750,000.

Fire, May 27, destroyed a portion of the plant of the Trova Motor Products Co., 2502 Cass Avenue, St. Louis, and the works of the King Bee Spark Plug Co., occupying space in the same building, with combined loss estimated at \$24,000. It is planned to rebuild.

C. H. Mourian, 530 Indiana Street, Oklahoma City, Okla., has plans for a one-story machine shop to cost about \$20,000 with equipment. Work will soon begin.

The Common Council, Coweta, Okla., plans the installation of pumping equipment in connection with a proposed new waterworks for which a bond issue of \$70,000 is being arranged. W. E. Davis, Cole Building, Tulsa, Okla., is engineer.

The A. P. Green Fire Brick Co., Mexico, Mo., has arranged for a note issue of \$600,000, a portion of the proceeds to be used for expansion.

The Oliver-Cadillac Co., 3222 Locust Street, St. Louis, representative for the Cadillac automobile, has tentative plans for a two-story service, repair and garage building, to cost about \$200,000 with equipment. Mauren, Russell & Crowell, Chemical Building, are architects.

The American Machine & Iron Works, Inc., Oklahoma City, Okla., has plans for a one-story machine shop, 100 x 120 ft., estimated to cost \$20,000.

The Bolene Refining Co., Enid, Okla., has work under way on extensions and improvements in its local oil refinery, to include the installation of additional machinery, to cost about \$350,000. The company has recently leased the Enid refining plant of the Oil State Refinery, and will operate as a new unit on a basis of about 2500 bbl. per day. V. E. Bolene is secretary and manager.

The Springfield Concrete Products Co., 1427 East Madison Street, Springfield, Mo., C. D. Cope, manager, has tentative plans for the construction of new works for the manufacture of concrete brick and tile, estimated to cost \$45,000 with equipment. Inquiries are being made for machinery.

The Common Council, Boise City, Okla., plans the installation of deep-well pumping equipment in connection with a proposed municipal waterworks. A bond issue is being arranged.

The Ozark Badger Lumber Co., Wilmar, Ark., is considering the erection of an addition, 120 x 120 ft., and a new one-story planning mill, 45 x 120 ft. Work will begin early in the fall. H. H. Kessler is general manager.

The Soda Fountain Corporation, 1013 Holmes Street, Kansas City, Mo., has been incorporated to manufacture automatic soda fountains. Some of the work is being done in the company's own plant and some in outside plants on contracts. C. R. Scott is president.

The P. J. Long Auto & Body Works, Tulsa, Okla., has been incorporated to build commercial and truck bodies for automobiles and to do a general automobile repair business. Mrs. H. H. Frey is secretary.

Pacific Coast

SAN FRANCISCO, June 2.

PLANs are being drawn by the Standard Sanitary Mfg. Co., Bessemer Building, Pittsburgh, for a new plant at San Pablo, Cal., to be one, two and three stories, 350 x 1250 ft., estimated to cost \$500,000 with equipment. George W. Kelham, Sharon Building, San Francisco, is architect; H. J. Brunnier, Sharon Building, is engineer.

The Union Ice Co., San Diego, Cal., has plans for a new one-story plant at La Jolla, to cost about \$65,000.

The Royal Tallow & Soap Co., Davidson Street, San Francisco, is considering the rebuilding of the portion of its plant destroyed by fire May 23, with loss reported at \$100,000 including equipment.

The Cannon Electric Development Co., Los Angeles, manufacturer of electrical products, has plans under way for a one-story factory, 70 x 100 ft., at Lacy Street and Avenue 33, for which bids will soon be asked. John M. Cooper, Rives-Strong Building, is architect.

The Black & Decker Mfg. Co., Oakland, Cal., manufacturer of electrical appliances and equipment, with headquarters at Baltimore, Md., has awarded a general contract to F. R. Siegrist, 693 Mission Street, San Francisco, for its proposed one-story plant, estimated to cost \$32,000. W. H. Weeks, 369 Pine Street, San Francisco, is architect.

The City Council, Tacoma, Wash., has made application to use water from the North Fork of the Snohomish River for the second unit of its proposed hydroelectric power project, to develop a capacity of 35,000 hp. at an estimated cost of \$6,000,000. The first unit of the municipal development is now in progress.

The San Diego Consolidated Gas & Electric Co., San Diego, Cal., has arranged for a bond issue of \$2,500,000, a portion of the proceeds to be used for extensions and improvements in power plants and transmission line construction.

The Rainier Pulp & Paper Co., Shelton, Wash., affiliated with the Washington Pulp & Paper Co., Port Angeles, Wash., has preliminary plans for the construction of a new sulphite pulp mill to cost close to \$200,000. V. D. Simons, 431 North Michigan Avenue, Chicago, is engineer.

The Cover-Lewis Motor Co., First and Main Streets, Santa Rosa, Cal., has completed plans for a one-story service, repair and garage building, 75 x 250 ft., estimated to cost \$110,000 with equipment. William Herbert, Rosenberg Building, is architect.

The Advance Auto Body Works, Inc., 515 Mission Road, Los Angeles, is having revised plans drawn for its proposed two-story addition, 125 x 145 ft., to cost approximately \$45,000. Henry E. Bean, Central Building, is architect.

The San Luis Obispo County Water Works District No. 2, San Luis Obispo, Cal., plans the installation of a pumping plant in connection with proposed extensions in system. A bond issue of \$35,000 is being arranged. J. G. Driscoll is clerk.

The Orange County Ice Co., Fullerton, Cal., is having plans drawn for a one-story ice-manufacturing and cold storage plant. Hamm & Grant, Inc., Ferguson Building, Los Angeles, is architect and engineer.

The Grays Harbor Railway & Light Co., Aberdeen, Wash., is completing plans for the construction of three hydroelectric generating units on the Cowlitz River, to develop a total of 200,000 hp. The estimated cost is \$12,000,000. W. W. Briggs is vice-president.

Canada

TORONTO, June 7.

MACHINE tool sales the past week were slightly below those of the previous week, the decline being chiefly due to the holiday. A good volume of orders, however, is being received for single tools and business as a whole is satisfactory. The automotive industry is again entering the market, but buying has not reached the volume at which it stood previous to the reduction of the tariff on automobiles and parts. The movement of general equipment has been more active. Sales of pulp and paper machinery have increased considerably and the extensive building programs announced by many companies indicate that large sums will be spent on plant and equipment within the next year or two. There is also some improvement in sales of mining machinery.

The Canadian Builders' Hardware, Ltd., room 130, Coristine Building, Farnham, Que., proposes to start work at once

on the erection of a foundry to cost \$25,000. Some equipment will be required. E. L. Storey is secretary.

The Brompton Pulp & Paper Co., Bromptonville, Que., has let the millwork contract in connection with its local mill to the Brompton Lumber & Mfg. Co.

The Dominion Engineering Works, Ltd., Lachine, Que., has the contract to supply 5 Francis turbines in connection with a \$5,000,000 water power development on the Gatineau River, Chelsea Falls, Que., for the Canadian International Paper Co., Notre Dame Street, Three Rivers, Que. The general contractor is Fraser-Brace, Ltd., 83 Craig Street.

The Ste. Anne Power & Paper Co., Ste. Anne de Beaupre, Que., will call for tenders soon for the erection of a \$5,000,000 paper mill and power house.

The Anglo-Canadian Pulp & Paper Mills, Ltd., has started work on mills at Lamoillon, Que., to have a daily capacity of 450 tons. Preliminary work now under way will cost \$1,000,000, while the cost of the new mills when completed will be approximately \$7,000,000.

The Barnjum Paper Co., in which F. J. D. Barnjum, Montreal, is interested, will build pulp and paper mills between Liverpool and Milton in the province of Nova Scotia, at an expenditure of about \$4,000,000.

The Bathurst Co., Bathurst, N. E., is installing additional equipment at its paper mills, and proposes other additions. It also contemplates increasing the power development from 10,000 hp. to 20,000 hp. The undertaking will represent an expenditure of about \$1,500,000.

The Belgo Paper Co., Shawinigan Falls, Que., is building an addition and will install two new machines to have a daily capacity of 200 tons, bringing the total output of the mills to 600 tons per day.

The Canadian International Paper Co. has an extensive building program under way. The mill at Three Rivers, Que., are being enlarged by the addition of two newsprint machines. At East Templeton, Que., large mills are under construction which are expected to be in operation by the summer of 1927, while hydroelectric power development is under way at Pagan Falls and Farmers' Rapids, where about 450,000 hp. will be developed. The company also plans power development and a paper mill at Grand Falls, N. B., at an expenditure of about \$20,000,000. Other construction is also contemplated.

The Hinde & Dauch Paper Co., Ltd., Toronto, has started work on a mill at Trenton, Ont., to cost \$500,000, for the manufacture of strawboard. Two buildings will be erected, one about 300 ft. long and one about 500 ft. long, of concrete, brick and steel.

The lumber mill of the Timagami Timber Co., Goward, Ont., was destroyed by fire with a loss of \$115,000.

The factory of the Colonial Piano Co., Ltd., Ste. Therese, Que., was destroyed by fire with a loss of \$175,000.

The Ford Construction Co., Hamilton, Ont., has the contract for the erection of boiler house for the Shredded Wheat Co., Niagara Falls, Ont., which will cost about \$75,000.

Work on the development of about 40,000 hp., on the Outarde River, for the Ontario Paper Co., Quebec, has been started. As soon as a power plant is completed the company proposes to start work on the erection of a pulp mill with a daily capacity of 100 tons.

It is expected that the Peninsular Sugar Co., Petrolia, Ont., will resume work immediately on the completion of its

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local plant which will represent an expenditure of \$1,000,000. Dr. L. W. Lawson is president.

Western Canada

The ratepayers of Moose Jaw, Sask., have authorized the erection of an addition to the electric power plant and the installation of a new 5000-kw. unit at a total cost of \$186,000. D. Craven is city clerk.

The city of Winnipeg will build an addition to the hydro-electric substation on King and Princess Streets, the building to cost \$50,000, and equipment \$50,000. C. J. Brown is city clerk.

G. McCoubrey, St. James Street, Winnipeg, has the general contract for a \$10,000 factory for Mayblit Radiators, Ltd., Burnell Street.

Swift Current, Sask., will build an addition to the power plant, for which D. Seath, city clerk, is receiving bids. Hargreaves & Thompson, Moose Jaw, Sask., are architects.

Foreign

THE Palestine Economic Corporation, 40 Exchange Place, New York, is completing plans for a construction program in Palestine, including the building of a hydro-electric generating plant on the Jordan River and the construction of transmission lines to connect with existing stations of the Palestine Electric Corporation at Tel-Aviv, Tiberias and Haifa. A fund of \$750,000 is to be granted for this development, the project to be carried out in cooperation with the Palestine Electric Corporation. Another appropriation of \$200,000 is being arranged for the erection of groups of standardized dwellings at Tel-Aviv and vicinity. Bernard Flexner is president.

A company at Trieste, Italy, is planning the construction of a new plant on local site or at Monfalcone, near Trieste, for the manufacture of screws, rivets, bolts and kindred products, estimated to cost \$150,000, of which more than \$100,000 will be used for equipment. The company is desirous of receiving catalogs and information of American machinery suitable for installation. Information at the office of the Bureau of Foreign and Domestic Commerce, Washington, reference Italy No. 208386. The American Consulate, Trieste, H. A. Bowman, vice-consul, is in touch with the project.

Fire, June 3, destroyed a portion of the factory and distributing plant of the American Agricultural Chemical Co., at Regla, near Havana, Cuba, manufacturer of fertilizer products, with loss estimated at \$850,000, including equipment. It is said that plans are being arranged for early rebuilding. Company headquarters are at 2 Rector Street, New York.

The Renault Automobile Works, Billancourt, France, have authorized plans for the early rebuilding of the portion of the plant destroyed by fire May 28, with loss reported at \$1,000,000 including machinery. The tire department sustained a large part of the damage.

The Council at Kulangsu, China, has plans for the construction of a municipal electric lighting plant, estimated to cost \$175,000 with equipment. The American Consulate, Amoy, China, Leroy Webber, consul, has information regarding the project.

The Electric Arc Cutting & Welding Co., 152 Jelliff Avenue, Newark, N. J., announces that the company has obtained a decree in the District Court of the United States, Eastern District of New York, to the effect that patents issued to C. J. Holslag, for alternating current welding transformers, for alternating current metallic arc cutting and welding apparatus and for improvements in metallic arc cutting and welding apparatus; and a reissue for improvements in the methods of electric arc welding, cutting, and repairing, are good and valid in law, and that the making of apparatus as described in and protected by these patents is an infringement.

Receivers' sale on June 19 is announced for all the property of the Kauffman Metal Products Co., with plants at Toledo and Bellefontaine, Ohio. The sale will take place at the court house in Toledo at 10 a. m. The Toledo plant, on Westwood Avenue, includes about 8.62 acres, with buildings and a large amount of equipment, supplies, stocks, office furniture, etc. The Bellefontaine plant contains buildings and equipment similar to that at Toledo. George E. Hardy and E. Roy Albaugh are receivers.

THE LAST WORD

(Contributed by the Reader Service Department of the Iron Age Publishing Co.)

IF you should happen to stroll into THE IRON AGE office on press day you might inquire, "Who is that hard-working individual over there in the corner who looks as if he were engaged in revising the Ten Commandments?"

The chances are that the person you are pointing at is none other than the tabloid news page editor, whose duty it is to read the entire issue before it goes to press, and summarize it for the tabloid news page, entitled, "In This Issue." The special press that is waiting will start on schedule at midnight, unless an important story "breaks" late.

The orange-bordered sheet in the center of the editorial section carries this convenient summary every week. See page 1653.

"Call for Mr. Dempsey." *Headline in last week's issue begins, "Take Short Course in Boxing.....," but the ending, ". . . and Crating," reminds us sharply that it deals with box-fighting, not prizefighting.*

The fond dream of every trade paper editor is that everyone in the trade who does not read his paper will soon have to buy a one-way ticket to the poorhouse, while the studious reader rides around in an Isotta-Fraschini.

But, alas! the reverse is sometimes true. The self-satisfied individual who says in effect, "The trade papers can't teach me nothin'," occasionally proves it by becoming disgustingly rich. Of course, in the majority of cases he doesn't, for a trade paper is nothing but a clearing house of trade information. And although it is undoubtedly possible to get along without a knowledge of what is going on in the rest of the industry, why try? Handicaps cannot be avoided in golf tournaments, but business is something else again.

Apropos of this, a man who has no connection with trade paper editorial or circulation work writes:

In a few places I got the "no time to read" remark. However, I noticed in such places they seemed to have time to do just nothing.

In the live, wide-awake offices, places that looked neat, orderly and businesslike, where everyone looked up to snuff and where there was evidence of something doing, they said they did find time to read.

When you see all the shining, bright, new cars on the road, it makes you think that perhaps the automobile manufacturers are diverting to themselves more of the national income than is good for the nation.

But cold statistics allay the fear, for although in 1920 5.1 cents out of every dollar of national income was spent for new automobiles and accessories, last year the figure was only 5 cents. Even back in the days of 1915, before self-starters, four-wheel brakes and bootleggers were ever heard of, 3.6 cents out of every dollar of income went into the tills of the motor car maker.

All of which indicates that there is no need to reach for the emergency brake.

Once a man told us that he sold \$150,000 worth of machinery in a single year by following up sales leads in THE IRON AGE. "How did you do it?" we asked.

"As soon as I received the paper on Thursday morning," he replied, "I would go through the industrial news section and immediately telephone those in the market for something I had to offer. Often I made thousand-mile calls. They cost money, but I got the business."

—A. H. D.